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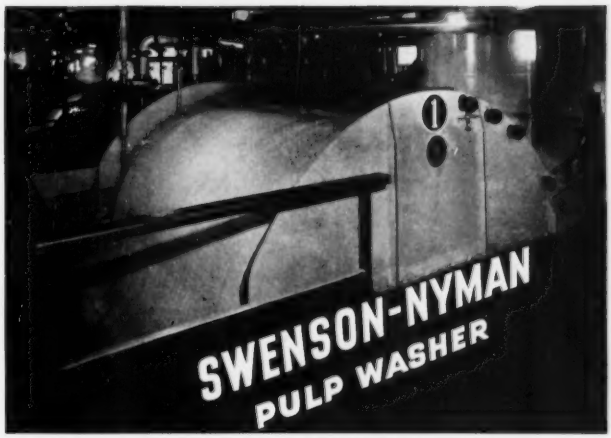

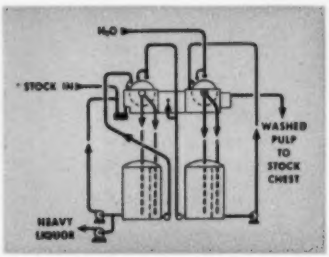

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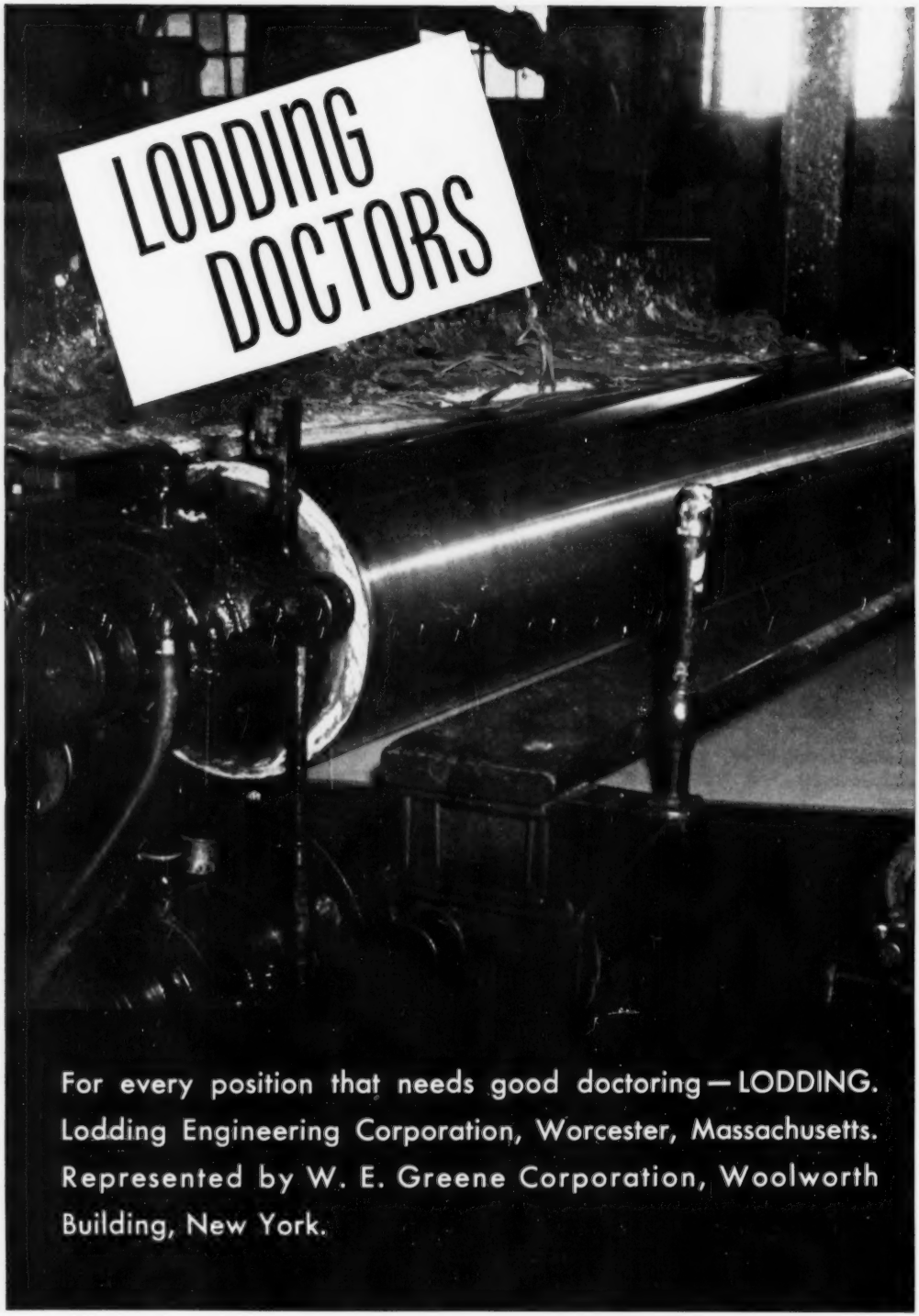

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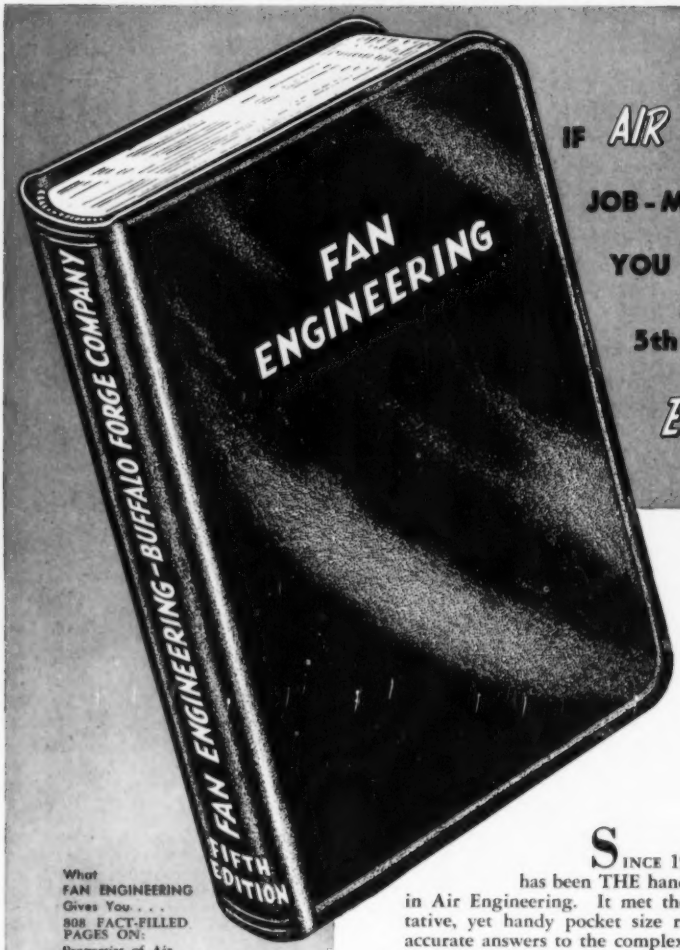

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MEMBER

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Paper TRADE JOURNAL

TRENDS

Office of the PAPER TRADE JOURNAL,
Wednesday, August 31, 1949.

Kraft Output Climbs

Albeit somewhat tardily, kraft wrapping — so-called *bell wether* of the industry — moved into line during the week ended August 20 with increased output over the preceding week. Figures for the respective weeks 74.9 percent for the week of August 20, compared with 66.1 percent for the preceding week.

What this upturn indicates, whether it will be sustained, if it is the pickup expected in June — no one can foresee. It does mean that more southern unbleached kraft pulp is being used by producers, probably for shipping sack paper in which seasonal requirements should shortly reach a peak. Also it may explain the reported lack of sales drive behind southern unbleached kraft pulps during the last two weeks. Heavy stocks are being put into "own consumption."

Cotton Bag Drive Extended

Coincidental with the kraft pickup, the National Cotton Council noted the first anniversary of the Cotton Bag Market Committee's formation, and reported an extension of the drive to save the bag market for cotton "in the face of serious competition from paper."

Quoting Bureau of Census figures for specific gains in terms of yardage of cotton cloth used by bag manufacturers during 1949's first five months, the CBMC points to a 27 percent gain in class B sheeting consumption, or 28 million yards; 49 percent increase in class C sheetings, or 10 million yards; 31 percent gain in major feed and flour bag constructions (40-inch 3.60-yard and 37-inch 4.00 yard); 58 percent gain in print cloths. A general increase of 10 percent in cotton bag fabric consumption is reported as the substantial results of the cooperative promotional campaign.

Entire Industry Gains

With kraft now in line, industry-wide gains can be reported over July's production low of 1,354,500 tons. The APPA reports that production ratio for the first three weeks of August averaged over 10 percentage points higher than the 72.2 percent ratio of July.

Currently a firmer undertone is reported in raw materials markets allied to the industry: wood pulp, waste paper, chemicals; rags and cottons being the possible exception. The firmness is not unmixed, however, in paper and board markets. An inclination to doubt the genuineness of the buying pickup persists. The industry's thoughtful also are watching the pulse of international trade, tariff revisions, implications of possible currency devaluations — subjects of the momentous Washington monetary conferences scheduled to start on September 7. A new era could be in the making, it is felt.

Pulp Prices Look Firm

The sizable upturn in demand for wood pulp is reported sustained in the New York area. As time moves the spotlight to fourth-quarter quotations, domestic and imported grades alike give evidence of undisturbed firmness at present levels. It is held likely that U.S. mill prices will largely set the levels for Scandinavian pulps regardless of the mooted devaluation of Swedish currency.

Newsprint Stocks Correction

Correcting figures quoted by *Trends* of August 25, end of July consumer stocks are reported by NAC as 49 days' supply at projected rate of consumption; which compares with 47 days for June, 1949, and with 37 days for July, 1948.

North American mill stocks for July were reported as 185,397 tons (173,221 tons in Canada and 12,176 in U.S.). Combined mill and U.S. consumer stocks total 904,826 tons, compared with 753,622 tons at the close of July, 1948.

U. S. Needs Canada's Output

Asserting that U. S. demand for newsprint can absorb all Canadian production for the next two years, Robert H. Scanlon, San Francisco investment broker and for many years a key director of Powell River Co., Ltd., Vancouver, B.C., and of Brooks, Scanlon, Inc., at Bend, Ore., just returned from directors' meetings of his companies, emphasized that international dollar shortages will not affect the Canadian paper industry.

Competition of Scandinavian newsprint, now about 5 percent of the present American market, is rated as of comparative insignificance by Mr. Scanlon, who also noted the increase in supply and the disappearance of "premium prices" on non-contracted Scandinavian tonnage.

Sees No Price Declines

Pointing to all-time highs of materials and labor, with wage demands continuing, also to the fact that newsprint is now below the average price for commodities, Mr. Scanlon said he sees no reason for price declines in newsprint, adding that he also is doubtful of price increases.

Production Indexes

Ratio of production of unbleached kraft paper to potential mill capacity for that product was 74.9 percent for the week ended August 20, compared with 66.1 for the preceding week, and with 99.1 for the corresponding week of last year.

Comparative ratios of U.S. paper and paperboard production to mill capacity, as reported by AP&PA, are:

	Aug. 20 1949	Aug. 13 1949	Aug. 21 1948	Aug. 23 1947	Aug. 24 1946
Paper	89.8	‡85.9	97.7	103.7	106.1
Paperboard ...	87.0	84.0	93.0	100.0	100.0

‡ Revised.

Paperboard Production (Index)

	Aug.* 20 1949	Aug. 13 1949	Aug. 21 1948
Production	188,028	181,138	185,537
New Orleans	186,039	169,424	175,762
Unfilled Orders ...	310,125	311,124	362,761

Percent of Activity, Current, 87%; Year, 79%.

General Business Indexes

Index of general business activity for the week ended August 20 inclined to 143.2 from 141.7 in the preceding week, compared with 150.3 in the corresponding week of 1948. Index of paperboard production climbed to 185.1 from 179.3 in the preceding week, compared with 180.1 in the corresponding week of 1948.

UNITED STATES IMPORTS OF WOOD PULP - BY COUNTRY OF ORIGIN
(SHORT TONS)

JANUARY THROUGH JULY 1949

GRADE	TOTAL	CANADA	SWEDEN	FINLAND	NORWAY	MEXICO	RUSSIA	OTHER COUNTRIES	
SULPHITE	429,576	355,837	42,548	25,236	7,691			4	
Rayon & Spec.	92,901	90,414	2,485					1	
Other Bleach.	151,255	110,732	7,988	15,825	7,691				
Unbleached	185,292	145,690	32,075	9,475					
SULPHATE	528,142	245,638	61,428	14,557	4,559				
Bleached	211,846	175,225	35,525	1,148					
Unbleached	116,246	70,413	25,903	13,391	4,559				
SODA	14,089	14,089							
GROUNDWOOD	105,611	98,996	1,247	5,174	75			559	
SCREENINGS	4,630	4,598	32						
Chemical	2,002	1,970	32						
Mechanical	2,628	2,628							
TOTAL	860,024	716,894	105,260	45,067	12,325			559	4

SOURCE: DEPARTMENT OF COMMERCE

Source: APPA, based on data from Bureau of the Census.

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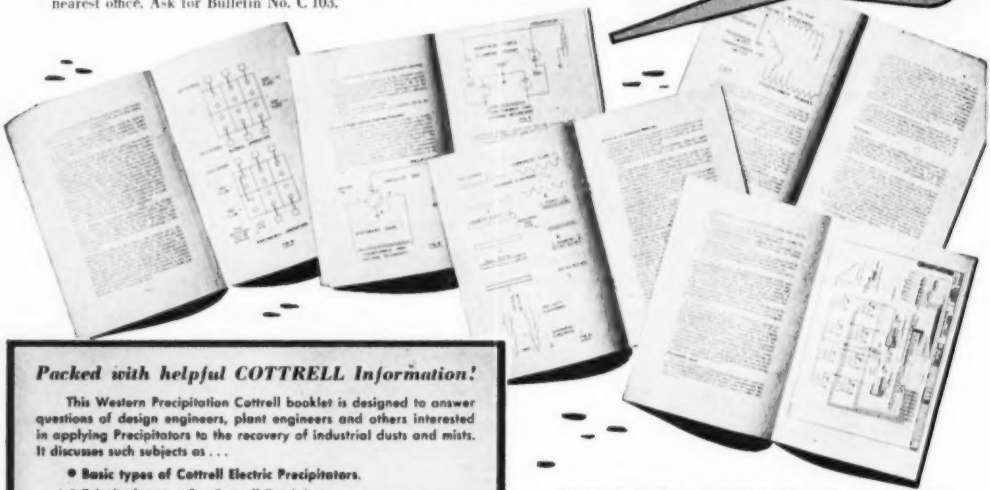

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Paper TRADE JOURNAL

News of the Week

MILLS

McLaughlin Succeeds Condit

NEW YORK—Jotham R. Condit has resigned as comptroller of the West Virginia Pulp & Paper Co., effective September 9, the 40th anniversary of his employment with the firm, but will continue with the company in a special part-time capacity.

Stuart W. McLaughlin, assistant comptroller of the company since 1945, has been elected to succeed Mr. Condit. The position of assistant comptroller will be filled by Robert L. Bentley, who has been an accountant in the company's New York offices since April 1947.

Mr. Condit began his career with the company in September 1909. He was elected comptroller in March 1938, after almost 30 years' experience in the accounting department. He is one of two brothers whose combined service with the paper company totals more than 90 years. His brother, Henry L. Condit of Maplewood, N. J., was assistant secretary when he retired in 1947 with almost 50 years' service.

Watt Elected Franklin Mills Pres.

LANDENBURG, Pa.—Kingdon R. Watt has been elected president and general manager of the Franklin Mills. A native of Boston, Mr. Watt was graduated from Northeastern University in 1937 with a B.S. degree in chemical engineering. For the past seven years he has served respectively as technical director and manager of the Curtis Paper Co. of Newark, Del. Prior to that he was chief chemist of the Crocker McElwain Co., Holyoke, Mass. Mrs. Herbert Mason continues as treasurer of Franklin Mills and will participate actively in its management.

Wesley to Nicolet Glassine Sales

WEST DEPERE, Wis. — John A. Wesley will join the Nicolet Paper Corp. organization on September 6, where he wil be in charge of glassine sales. He was formerly vice-president of the Mid-West Waxed Paper Co., Fort Madison, Iowa.

Title Passes, Plans Undisclosed

OTTAWA—Although the Government of Quebec has acquired the assets of the Quebec Pulp & Paper Corp. for $1.5 millions as provided by a bill allowing such acquisition of the bankrupt firm for an amount fixed by a Superior Court judgment, it is not known whether the provincial government wil endeavor to sell these assets in the near future. All that is known now is that the property would be used primarily for the advantage of the Chicoutimi area of Quebec where the mill is located. Also unknown is what settlement may be made on a $2.5 million claim by the Quebec Streams Commission in connection with the company, though unofficial estimates have forecast the possibility that the aforementioned Commission may get approximately $850,000 on its claim. By the agreement of sale of the bankrupt company, the 70,000 preferred shareholders will get $23 a share.

WILLIAM S. SNYDER

—appointed general manager of the container division of the International Paper Co., New York, on August 23, succeeds William P. Davis, general manager of the division since 1944, who has resigned to accept a position with another company. . . . Mr. Davis, who is continuing with International in an advisory capacity until September 30, will announce his new connection shortly. . . . Mr. Snyder's container experience dates back to 1928, first with the Fort Wayne Corrugated Paper Co. and for the past 14 years with International's container division and its predecessor. He has been general sales manager for the past five years, and prior to that was in charge of the Kansas City and Chicago container plants. . . . For the time being he will act as general sales manager as well as general manager of the division.

Potsdam Mill Available

POTSDAM, N. Y. — The Depot street mill of the Potsdam Paper Mills, Inc., repossessed on August 24, will not be reopened by the owners, Reading Corrugated Container Co. at the present time, according to Nathan G. Grossman, vice-president of the latter company. He added that the plant is for sale or lease to financially responsible parties and is best equipped for a corrugated paper operation with the remaining machinery.

A bankruptcy sale of the unencumbered personal property of Potsdam Paper Mills, Inc., conducted by Lawrence R. Ormiston of Watertown, attorney for the creditors, brought $950. Principal buyers were Max Sverdlow of Potsdam and Charles Ruderman of Gouverneur.

Rayon Mills Reopening

OTTAWA — It is understood that the decision of the British Columbia Pulp & Paper Co., Ltd., to reopen its Woodfibre and Port Alice rayon mills September 17 and October 3 respectively is based on the general improvement in the U. S. rayon market as well as the reduction in stocks caused by the three-month closure.

Gardner Expanding Mill Operations

MIDDLETOWN, Ohio—Space occupied by the machine shop equipment of the Gardner Board & Carton Co., recently acquired by the Manchester Machine Co., will hereafter be used to expand Gardner's mill operations. The Manchester Machine Co., is a wholly-owned subsidiary of the Gardner Board & Carton Co.

Fraser Advances Donald R. Seely

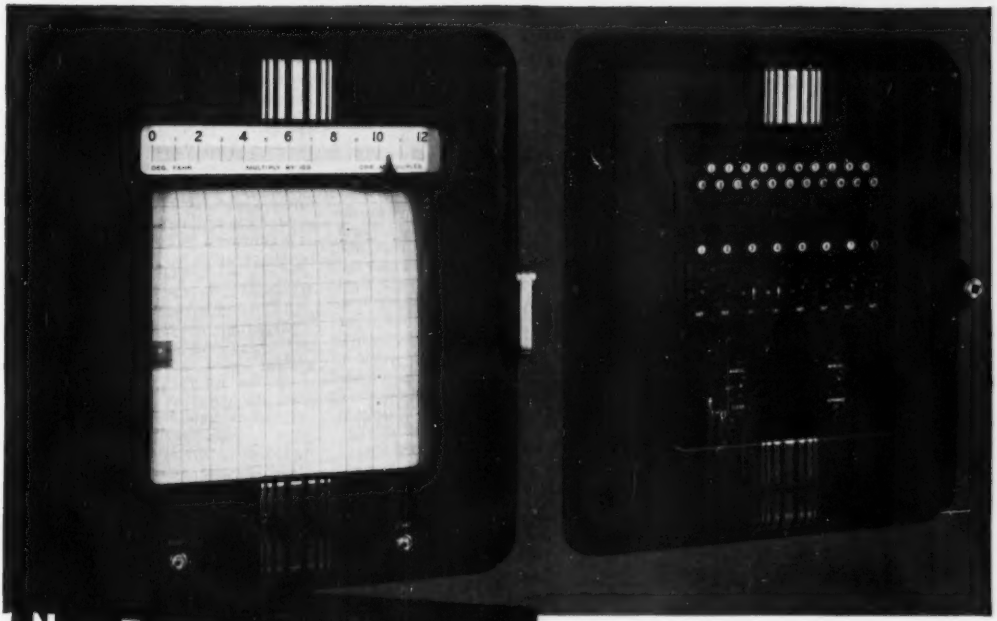
NEW YORK—Fraser Co's., Ltd., have named Donald R. Seely, formerly assistant to the general manager, to the post of assistant general sales manager of the Restigouche Company, Ltd., and the Pulp Division of Fraser Co's., Ltd. Mr. Seely has been connected with Fraser Co's., Ltd., for over 24 years.

Iroquois Falls Mill Opened

IROQUOIS FALLS, Ont. — The "largest pulp mill in the world" has been opened here by the Abitibi Power & Paper Co. Estimated cost of the mill is $12,000,000.

Alton's Carlyle Mill Resumes

CARLYLE, Ill.—The Alton Box Board Co. here has resumed making paper after having been shut down since February 7.



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In either case, readings are supplied in such rapid rotation that it is generally possible to determine the exact point at which any high or low temperature first develops, even though the condition may later spread to other points. Such speed of course helps both to detect and to isolate trouble.

The installation procedure is entirely standard. The user's staff simply installs thermocouples at those points from which they wish to get temperature readings. Couples are then connected to the Speedomax equipment in banks of 20 each, with as many as 8 banks. Appropriate alarms may be included.

Records When Desired

The Speedomax automatically measures at a rate of one point every 4 seconds. Signal lights wink on for each couple, and as long as temperature remains correct the instrument merely indicates . . . does not record. It can be made to record at any time, however, merely by throwing a switch. Or if any temperature reaches its predetermined limit, an alarm sounds and the Speedomax automatically records until switched off. Also, any bank or banks of couples can be switched out at any time, thus concentrating on areas of special interest.

For further information about this versatile temperature-checking equipment, write Leeds & Northrup Company, 4967 Stenton Avenue, Phila. 44, Penna.

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Sparks Fly in Ontario Lumbermen-Mill Squabble

By CHARLES H. L. REID

TORONTO—Not only were there more than 150 bush fires reported throughout Ontario's forest lands during the week ended August 27, most of them burning at the same time, but a fierce conflagration raged in the Lake Superior region, where lumber operators were trying to make it "hot" for pulp and paper companies and the Ontario government.

Happily, most of the bush fires have been extinguished or brought under control without too much damage. The "fires" around Fort Wililam are still raging, fed partly by political considerations, but chiefly by the lumber companies who seek more advantageous cutting rights in the area. Among the more inflammable material being thrown on the fire is the fact that nothing has been done by the Conservative Ontario government about the admittedly fair and exhaustive Kennedy report, which recommended drastic forestry conservation measures, to halt wasteful exploitation of the country's natural resources. Maj.-Gen. Howard Kennedy turned in his report in August, 1947, after 14 months of investigation, during which he heard briefs from many interests and in many localities.

On the political side, the Ontario government now says it can't do anything about forestry policy, or implementation of the Kennedy report, until the actual forest resources are known. The government has now under way a gigantic aerial survey which, by new photographic techniques, provides a remarkably accurate report. The survey will be completed next year, but another year will be required to compile the results. By 1952 the government claims it will be ready to tackle the forest problem intelligently! By that time it will be possible to re-examine policies on allocation of lands and cutting rights, and thus be able to decide who should cut timber, what they should cut and where.

In the meantime, many sawmills have been closed and others are threatening to close for want of sawlogs. Chief among those threatening to close down is the huge enterprise headed by E. J. Johnson, the Great Lakes Lumber & Shipping Co. of Fort William, a war-born sawmill employing 800 men. The company has never had an assured supply of sawlogs. It was conceived in 1939 and pushed into operation to meet the war-time needs for lumber. By Order-in-Council, September 18, 1940, Mr. Johnson was given cutting rights on 435 square miles of Abitibi Pulp & Paper Co. limits. At the same time, Great Lakes Paper Co. was ordered to supply one-third of the requirements of the mill with sawlogs from its limits. Some of these logs have been refused by Mr. Johnson as "not suitable." Now it is reported that the Great Lakes Pulp & Paper Co. plans to build a sawmill. Relatively small compared to the Johnson mill, it is understood to be planned to handle from 20,000 to 30,000 feet a day.

There are already more than one thousand sawmills in Ontario, most of them small and many portable, operating in rural areas, to supply local requirements. There are 49 sawmills in the province with a daily capacity of 30,000 board feet.

The "Budword Infestation Committee of the Fort William Riding Liberal Association" was responsible for one public meeting at the lakehead and the Unemployment Committee of the Fort William Trades and Labor Council was responsible for another.

Pulpwood operators claim that while the budworm infestation is a problem, it has not reached the magnitude claimed. In 3.5 million acres involved on the west side of Lake Nipigon (where Mr. Johnson seeks salvage rights) they claim only 18 percent of the timber is affected — ten percent balsam and eight percent spruce. It is claimed that the rest of the timber is relatively good.

The sawlog men regard the Kennedy report as proof of discrimination against them and they quote its recommendations that "government policy be inclined in favor of the lumber industry rather than against it, as would appear from stumpage rates, ground rents and limit allocations of the past decade."

What the sawlog men want is the right to operate on pulpwood limits. They want to cut everything merchantable, the sawlogs going to the sawmills, the pulpwood to the pulpmills. They also want pulp men to "clean-cut," giving the sawmill men the sawlogs at cutting cost.

The pulp and paper men say they must have large limits, hence long-term guarantees of adequate supply to protect their great investments in mill and equipment. The Kennedy report recognizes that fundamental problem where it says of the inter-limit operation: "The sawmill lacks assurance of continued supply and the pulp and paper companies involved cannot accurately estimate the effect that possible cutting programs for sawlogs may have on their sources of pulpwood supplies."

St. Regis Expands Kalamazoo Holdings

NEW YORK — The Panelyte Division of the St. Regis Paper Co. reports acquisition from Time, Inc., of a paper coating mill at Kalamazoo, Mich., which will be converted to the production of laminated plastics.

The purchase was consumated August 18, and represents final arrangements made late in 1946 whereby St. Regis also acquired three paper mills from Time, Inc.

Installation of new equipment and interior alterations are underway, and the plant is expected to be producing laminated plastics by January, or shortly thereafter. The plant will supplement the output of the division's major plant at Trenton, N. J.

C. Russell Mahaney, St. Regis vice-president and Panelyte general manager, said the expansion into Kalamazoo resulted from increased demands for Decorative Panelyte. In keeping with the increased demands, Panelyte also has developed a wide range of new designs and colors for its decorative line. These, recently were placed in production in Trenton, but wil be made at Kalamazoo as soon as the new plant is in operation.

James E. Kussman, associated with Panelyte at Trenton, becomes the Kalamazoo plant manager.

Meantime, the company is expanding and organizing a national distribution system based on exclusive franchises to service decorative plastics separately from its industrial line.

Panelyte manufactures its laminates from various types of base materials, including paper, fabrics, asbestos, glass fibre. It also makes synthetic resins used in plastics production.

The Kalamazoo plant provides Panelyte with floor space representing approximately one-third that of the large Trenton plant, which is situated on a 50-acre tract and where recent $2,000,000 expenditures have also resulted in increased capacity.

The plastics plant further consolidates the position which St. Regis has taken in Kalamazoo. The company owns a paper mill in that city for production of commercial printing papers, operated by the company's printing, publication and converting papers division. The paper mill formerly was the Bryant Paper Co., and was one of the three paper mills acquired from Time, Inc. The other two mills are the Maine Seaboard Paper Co., Buckport, Me., and the Hennepin Paper Co., Little Falls, Minn.

Allen, 60 Years a Bemis Man

ST. LOUIS — Henry H. Allen, vice-president and a director of the Bemis Bro. Bag Co., recently celebrated his 60th year with that firm. Mr. Allen is in charge of Bemis' eastern operations with headquarters in New York. His association started in 1889 when he joined the Bemis organization in Omaha. Two years later he was made superintendent of the Omaha plant. After nine years of production work, he went to the St. Louis plant as a salesman and was later transferred to the Kansas City sales force. When a factory was built in Kansas City in 1903, Mr. Allen was made manager and stayed in that position until 1911 when he became manager of the St. Louis plant. A year later he was elected secretary of the company and to membership on the board of directors. In 1920 Mr. Allen's experience was again called upon when he was sent to Brooklyn to take charge of the Bemis plant being built there. He was made a vice-president in 1921 and some years later transferred his headquarters to New York City.

Five C. Z. Men Advanced

SAN FRANCISCO—A. B. Layton, vice-president and chairman of the Crown Zellerbach Corp. research and development committee, reports that important assignments in the movement of the company's research management people will be made. "These activities," he said, "are part of the company's plan to widen and strengthen all its research facilities and services for customers and to accelerate development of new paper products."

Wm. Moyer, director of research, will assume responsibility for the central research department, Camas, Wash., formerly designated as the central research and technical department. He will also have direction of the central research laboratory at Camas.

Wm. R. Barber is completng his activity as technical director of the central research and technical department at Camas, and will transfer to the new laboratory of the Western Waxed Paper Co. division at San Leandro, as technical director.

Other reassignments of duties in the central research department are the naming of W. F. Holzer and W. M. Hearon as assistant directors of research. Dr. Holzer will be responsible for mill services and contracts in addition to directing the work of the experimental pulping, forestry, specifications and special services sections. Dr. Hearon will be responsible for and direct the work of the by-products, pulp, paper and special problems research sections and the scientific library.

G. D. King has been made manager of new products development, with headquarters in the San Francisco sales office. Directly responsible to Dr. Moyer, Mr. King will give technical assistance to the sales department in the development of markets for new paper products and implement development of new products. In addition, he will direct and correlate the work of the paper products development section at the central research laboratory, under the immediate supervision of J. S. Barton.

Price Bros. Renews Contract

QUEBEC—The contract between Price Bros. & Co., Ltd., and the Kenogami and Riverbend locals of the IBPM (AFL) have been renewed, retroactive to May 1, last. It provides three weeks of paid holidays for employes with 20 years of service and six days of sick leave. The contract provides for revision of certain rates of pay, but no general increase.

COURSE IN LITHO PRESS OPERATION

A new course in lithographic press operation (Harris 17x22) has been opened by the Printing Institute, 2206 Chestnut street, Philadelphia. . . In addition to press operation and maintenance, students will be taught ink mixing, color matching, imposition and paper handling. Classes will meet for 52 weeks, 25 hours per week. Special evening courses will also be conducted for 52 weeks, meeting 9 hours per week. . . With the addition of this new course, Printing Institute becomes the only privately owned printing trade school in this country offering complete instruction in the lithographic field. . . A wide variety of text-books, reference volumes, technical journals and trade publications is being assembled in the Institute's library and a motion-picture projector and screen have been installed. . . In recognition of the status which Printing Institute has achieved, membership was recently granted in the Lithographic Technical Foundation and the National Ass'n. of Photo-Lithographers. The school is also a member of the National Graphic Arts Education Ass'n. . . Paper mills, printing equipment and supplies manufacturers are invited to place on their mailing list the Printers Library of Printing Institute, 2206 Chestnut Street, Philadelphia 3, Pa.

Ft. Frances No. 6 Machine Modernized

TORONTO — Modernization of No. 6 paper machine in the Fort Frances plant of the Ontario-Minnesota Pulp & Paper Co., wholly-owned subsidiary of the Minnesota & Ontario Paper Co., has been completed, according to Vice-President C. Larson, in charge of production.

Modernization of this machine will make possible speed ranges of from 200 to 1,000 feet per minute, Mr. Larson said. "This will result in more economical operation while producing a higher quality and more diversified line of paper."

Commencing at the wet end of the machine, the Bird screens were raised and a new headbox installed. The table roll portion of the Fourdrinier was replaced by a removable section. This latter installation will make wire changes easier and faster and thus reduce "down" time of the machine.

A new shake was also installed as well as a new suction first press and a new three-roll reversing suction second press. The third press has been eliminated and replaced by a new smoothing press.

To allow for anticipated higher speeds, six new dryer cylinders have been added to the dryer section.

At the dry end of the machine a new Pope-type reel was installed, as well as a new high-speed Cameron winder equipped with an electric regenerative tension drive. The winder, equipped with a Bagley & Sewall roll unloader, is capable of speeds up to 3,000 feet per minute.

Replacing the reciprocating engines, which were installed 35 years ago, is a modern and completely automatic push-button controlled electric drive.

Reynolds' Copenhagen Foil Plant

COPENHAGEN, Denmark—The Reynolds Metals Co. is building a factory here for the production of aluminum foil to be operated in conjunction with Crown Gummed Paper, a Danish firm. The new plant is expected to supply Scandinavia, Holland and Belgium. It is reported that the use of aluminum foil for wrapping is new to Northern Europe, but that once the plant gets into production, butter, a large Danish export, may be wrapped in aluminum foil lined with grease-proof paper. Raw materials for the plant will be bought in Europe so that operation of the plant will not increase Denmark's dollar commitments.

SAPI Admits Reynolds to Membership

NEW YORK—John G. Reynolds, New England representative of the Brown Co., Hanover, Mass., has been admitted to membership in the Salesmen's Ass'n. of the Paper Industry.

Shine Joins Mohawk in N. Y.

COHOES, N. Y. — W. H. Shine has been added to the sales staff of the New York office of the Mohawk Paper Mills, Inc.

High Alpha Pulp Plant Progressing

PRINCE RUPERT, B. C. — Steel construction has been completed on several buildings of the Columbia Cellulose Co., Ltd., high alpha pulp plant being erected on Watson Island, and work is proceeding satisfactorily in all directions, C. H. Klotz, project engineer, reports.

"Installation of sewers, pipe lines and water mains is well advanced," Mr. Klotz reports. "The large aggregate and batch plant is functioning successfully and the transit shed has been substantially completed.

"All the steel for the office building and pulp storage building has been erected. It is hoped that the office building will be available for occupancy within the next five or six weeks.

"Foundations and footings on a number of the processing buildings are now ready to receive the steel work. Excavation work is virtually completed in preparation for the erection of the boiler house, coal hopper and conveyor buildings."

Within the last few weeks contractors began the fabrication on the plant site of wall panels and roof slabs, which consist of a layer of Foamglas insulation between two layers of concrete. This novel assembly will be used in certain departments of the plant.

Workers now engaged in miscellaneous activities of Columbia Cellulose Company, Ltd., have passed the 700 mark, an increase of approximately 17 percent during the last month.

Imperial Re-elects All Officers

GLENS FALLS, N. Y.—All officers and directors of the Imperial Paper & Color Corp. of this city were re-elected at the annual meeting at the plant offices on August 23. They are: Karl R. McBride, president; Arthur F. Brown, executive vice-president; Martin L. C. Wilmarth, vice-president; Albert S. Frazier, secretary-treasurer; Harry J. Hall and George U. Schaefer, assistant secretaries; J. J. Clarke and A. McKee Spear, assistant treasurers. Directors are Louis P. and Arthur F. Brown, Harold F. Bullard, Albert L. Emerson, Seymour L. Karpeles, George F. Mellen, William Rohe, J. Edward Singleton, Alfred E. VanWirt, Mr. McBride, Mr. Wilmarth and Mr. Frazier.

Salisbury Mills Featured

NEWBURGH, N. Y.—The Frost White Paper Mills and Park Tissue Mills were featured in a pictorial spread in the *Newsburgh News* on August 19. The community of Salisbury Mills has grown around this paper mill which was established prior to the Revolutionary War.

Standard Products Corp. Elects Pringle

NEW YORK—Willard M. Pringle has been elected a director and chairman of the finance committee of the Standard Products Corp., owner of the Ancram Paper Mills and Standard Products Exports, Inc. Mr. Pringle is vice-president and a director of Herman Scott Chalfant, Inc., and a director of the Dalzell Towing Co., Inc., both of New York City, and a director of the Cellutin Corp., Holyoke, Mass.

Mando's Griffiths to Western Pa.

MINNEAPOLIS — David Griffiths has been named by the Minnesota & Ontario Paper Co. as its Western Pennsylvania insulite division sales representative. Mr. Griffiths has been connected with the merchandising of industrial products and insulating siding for the company in Minneapolis.

Warren and Helversen Promoted

PORTLAND, Ore.—B. F. Warren, formerly chief industrial engineer of the Crown Zellerbach Corp., has been promoted to the position of converting manager at Camas, Wash. Succeeding him as chief industrial engineer is F. D. Helversen.

Halifax Strike Ends, Mill Rolls

ROANOKE RAPIDS, N. C.—The Halifax Paper Co. plant here, strike-bound by a walkout of members of Local 697, UPA (CIO) since August 1, resumed operations August 23, K. F. Adams, resident manager, reports.

Martin Heads Scott District

WORCESTER, Mass.—Gene Martin has been named manager of the Worcester-Lawrence district of the Scott Paper Co., Chester, Pa. Mr. Scott has been in Scott's New England retail division in Boston.

ASSOCIATIONS . . .

Supts. N. Y.-Canadian Division Meeting

PLATTSBURG, N. Y.—The program of the fall meeting of the New York-Canadian Division of the American Pulp & Paper Mill Superintendent's Ass'n. at the Champlain hotel at Bluff Point includes the following:

MEN'S PROGRAM

Thursday—September 8

3:00 p.m.-6:00 p.m.—Reception and Registration.

6:00 p.m.-8:00 p.m.—Steak Fry.

9:00 p.m.-11:00 p.m.—Informal Get Together Party, Cabana Club, Guests of the Salesmen.

Friday—September 9

9:00 a.m.—Reception and Registration.

9:30 a.m.—Business Meetings.

(1) Paperboard and Felt Group: Chauncey E. Cole—Chairman, Carl E. Reynolds—Co-Chairman. "Elements Controlling Formation of Paper in Cylinder Vats," Mr. Allen A. Lowe, Sales Promotion Manager, The Sandy Hill Iron and Brass Works.

(2) Fine Paper and Tissue Group; A. T. Gardner, Chairman, F. A. Dennis, Co-Chairman.

(3) Kraft and Groundwood Specialties Group: A. G. Durgin, Chairman.

NOTES

(1) The meetings will be discussion meetings with full participation by all members from the floor.

(2) Meeting spaces will be assigned at later dates.

(3) Company Affiliations: Chauncey E. Cole—Mutual Box Board Co.; Carl E. Reynolds—Armstrong Cork Co.; A. T. Gardner—Provincial Paper Mills, Ltd.; F. A. Dennis—Diamond Match Co.; A. G. Durgin—Brompton Pulp & Paper Co.

(4) Award punctuality prize, only Superintendents are eligible.

12:00 noon—Luncheon.

1:00 p.m.—Mill Visits: J. & J. Rogers Co., Au Sable Forks, N. Y.; Diamont Match Co., Platt-burg, N. Y.; Imperial Paper & Color Corp., Plattsburg, N. Y.; New York & Pennsylvania Co., Inc., Willsboro, N. Y.

7:00 p.m.—Dinner.

9:30 p.m.—Entertainment and Dance.

Saturday—September 10

9:00 a.m.—General Session.

(1) "Suction Rolls on Tissue Machines," E. Glauner, Service Engineer, Downingtown Manufacturing Co., Downingtown, Pa. "Water Removal by Vacuum at the Wet End of a Paper Machine," Carleton Clark, Clark and Vicario.

(2) "Howard Smith Creaser," Basil Rogers, Staebler and Baker, Ltd. Mr. Rogers will demonstrate this unit.

(3) Annual Meeting and Election of Officers of the New York-Canadian Division, J. O. Julson, Chairman.

NOTES

(1) Meeting place will be assigned at a later date.

(2) The papers by Messrs. Glauner and Clark will be read so as to have simultaneous discussion on them together, since the subject matter is closely related.

(3) A punctuality prize will be awarded, only Superintendents are eligible.

(4) Be sure to be prompt at buffet luncheon, so golf tournament can be started on schedule.

12:00 noon—Buffet Luncheon.

1:00 p.m.—Golf—Hotel's Course.

1:00 p.m.—Trap Shooting.

7:00 p.m.—Banquet.

Norman O. Weil, Toastmaster. Awarding of Golf Trophies, Stebbins Engineering & Mfg. Co., Holm-MacLaren.

Awarding of other prizes.

9.30 p.m.—Dancing.

LADIES' PROGRAM

Thursday—September 8

3:00 p.m.-6:00 p.m.—Reception and Registration.

6:00 p.m.-8:00 p.m.—Steak Fry.

9:00 p.m.-11:00 p.m.—Informal Get Together Party, Cabana Club, Guests of the Salesmen.

Friday—September 9

9:00 a.m.—Reception and Registration.

12:00 noon—Luncheon.

2:00 p.m.—Golf—Hotel's Course.

7:00 p.m.—Dinner.

9:30 p.m.—Dance.

Saturday—September 10

10:00 a.m.—Shopping, Plattsburg.

12:00 noon—Buffet Luncheon.

2:00 p.m.—Bridge—Card Room.

7:00 p.m.—Banquet.

Norman O. Weil, Toastmaster.

Awarding of Prizes.

9:30 p.m.—Dancing.

The Salesmen are putting on a Get-together evening, scheduled for Thursday evening. This is an ideal opportunity for us Superintendents to become better acquainted with each other, and also with our Salesmen friends. A steak supper on the lawn will precede the Get-together.

The evening Boat Ride on the Ticonderoga, previously scheduled, has been cancelled due to the extremely low water condition of Lake Champlain.

Officers for the meetings are: J. O. Julson, chairman, Diamond Match Co.; D. R. Dick, first vice-chairman, Howard Smith Paper Mills, Ltd.; H. S. Cutler, second vice-chairman; United

Board & Carton Corp.; C. E. Cole, third vice-chairman; Mutual Box Board Co.; E. C. Keyser, secretary, Diamond Match Co.; and H. A. Horstmann, treasurer, General Dyestuff Corp.

COMMITTEES

Men's Golf: Ed Thom, Chet Taylor, L. W. McCracken.

Women's Golf: Mrs. James Rogers II, Mrs. Henry Hortsmann, Mrs. Ronnie Hynes.

Papers: H. S. Cutler, C. E. Cole.

Mill Visits & Transportation: A. T. Harding, J. M. Wettenmann.

Reception Committee: Mrs. J. O. Julson, Mrs. H. S. Cutler, Mrs. C. E. Cole, Mrs. D. R. Dick, Mrs. E. C. Keyser, Mrs. Russell Grey, Russell Grey, Wilbur Wallin, D. A. Hunter.

Registration: Miss Ethel Bradley, Miss Katherine Smith.

Women's Bridge: Mrs. Ives Gehring, Mrs. Herbert Karberg, Mrs. J. O. Julson.

Trap Shooting (Men's & Women's): Earl Osterheldt, Carl Reynolds, Mrs. Russell Grey.

Entertainment: Russell Grey, D. A. Hunter.

Prizes: Gus Holm.

Toastmaster: Norman O. Weil.

Paper Display: Wally Buck, Tom LaHaise.

Controllers San Francisco Meet

NEW YORK — Ralph B. Knott, controller of Fibreboard Products, Inc., San Francisco, is chairman of the program committee for the eighteenth annual meeting of the Controllers Institute of America, to be held in that city, September 25-28.

Thomas W. Bryant, general controller of the Cuneo Press, Chicago; H. P. Buetow, treasurer of the Minnesota Mining & Mfg. Co., St. Paul; and Keith Powlison, controller of the Armstrong Cork Co., Lancaster, Pa., will serve as chairmen of technical sessions at the event.

H. Watson Paddock, controller of the Union Bag & Paper Corp., New York, will preside at a special conference of controllers from the paper products field, which will be a feature of the convention.

Victor G. Gendron, manager of the audit department of the Crown Zellerbach Corp., San Francisco, is in charge of speakers' hospitality for the gathering.

Pa.-N. J.-Del. Supts' Meet

CHICAGO—L. H. Bidwell, Jr., of the Riegel Paper Corp., Riegelsville, N. J., chairman of the Pennsylvania-New Jersey-Delaware Division of the American Pulp & Paper Mill Superintendents Assn., Inc., reports that the Fall Meeting of the Division will be held at St. Patrick's inn, Mt. Pocono, Pa., September 30-October 1.

This meeting marks the Twenty-fifth Anniversary of the Division and its program will be in keeping with such an occasion, Mr. Bidwell promises.

"Reservations should be sent direct to St. Patrick's inn, Mt. Pocono, Pa., addressed to the attention of Mrs. R. Burkhouse, reservation manager. Each reservation should include a deposit. Confirmation of each reservation will be made immediately," he adds.

Boston Conference on Distribution

BOSTON — Among featured speakers at the 21st Annual Boston Conference on Distribution at the Statler hotel, October 10-11, are: Lemuel R. Boulware, vice-president of the General Electric Co., Schenectady, N. Y.; and Morris S. Rosenthal, president of Stein, Hall & Co., New York. Included in membership of the Conference's national advisory council is Wm. M. Rand, president of the Monsanto Chemical Co., St. Louis. H. M. Turner, president of the Canadian General Electric Co., Toronto, is a member of the international advisory council of the Conference.

Supt's. Poland Springs Meet

RUMFORD, Me. — "The Northeastern Division of the American Pulp & Paper Mill Superintendents Ass'n., Inc., extends an invitation to members of all Divisions of the Association and to all representatives of allied industries to attend their meeting which will be held at Poland Spring House, Poland Springs, Me., September 22-24.

"Reservations should be made direct with the Poland Spring House, Poland Springs, Maine," A. F. Tolland, chairman of the Northeastern Division, states.

MISCELLANY

Six Mellon Institute Fellowships Aiding Paper

PITTSBURGH—Six fellowships related to the paper industry are among those treated in "New Knowledge Through Scientific Research at Mellon Institute," which is the title of the annual report for the year 1948-49 by Dr. E. R. Weidlein, director of the Institute, to the board of trustees. The fellowships are supported by the Strathmore Paper Co., West Springfield, Mass.; Corn Products Refining Co., Carbide & Chemicals Corp., Robert Gair Co., Inc., and the National Council for Stream Improvement, all of New York, and the J. B. Short Milling Co., Chicago.

Chief aim in the work of the fellowship of the Strathmore Paper Co., has been the better and more efficient sizing of paper, the report states. "This fellowship's pilot plant work has shown a means of obtaining greater uniformity with regard to various tests used for judging sizing." For the past 21 years the Strathmore fellowship has been sustained under the supervision of Dr. Paul B. Davidson, senior fellow. Assisting Dr. Davidson in the paper research work is Jack Osmar.

Corn Products Refining Co., sustains its fellowship to broaden "the domain of industrial applications for chemicals and allied products derived from corn.

"Work has been carried forward on the utilization of zein, dextrose derivatives and chemically modified starches.

"In zein technology, studies have been directed to the uses of zein in water dispersions. Zein formulations have been evolved for a host of applications; two are adhesives and coatings for paper. Methods have been worked out for utilizing a low-cost protein material from corn gluten. Studies of dextrose-base polymers have been productive of materials that appear to be valuable as remoistening adhesives and for extending animal glue.

"The properties of several chemically modified starches have been examined with a view to their eventual introduction in a variety of fields, ranging from protective coatings to textile and paper sizings."

Through the fellowship of the Carbide & Carbon Chemicals Corp. have come flame-retardant paper softeners and investigation of "the use of hydroxethylcellulose for wet-strengthening paper products. The latter treatment increases the wet strength and greatly improves the rewettability of the paper," it is stated.

Robert Gair Co., Inc., supported the Packaging Research Fellowship from 1941 to the end of 1948. "Materials and methods were studied for imparting grease resistance to boxboard, particularly board used for food cartons," the report discloses.

The Stream Improvement Fellowship, sponsored by the National Council for Stream Improvement of the Pulp, Paper and Paperboard Industries, has been devoted to investigations "on the properties and methods for treatment of spent acid and alkaline bleach liquors," the report points out. "The researches conducted on these types of pulp and paper mill wastes afforded new information on their physical and chemical properties and aided in the development of methods, on a laboratory scale, for their neutralization, clarification and decolorization. If the results of pilot-plant investigations are satisfactory, and the methods are applied in the mills, it is thought that any pollution of streams caused by discharge into them of spent bleach liquors will be markedly abated. "The Fellowship contributed to successful solutions of troublesome specific waste disposal problems at several pulp and paper mills. A bio-aeration or biological process for reducing the biochemical oxygen demand of deinking wastes, contrived by this Fellowship, was subjected to pilot-plant investigation with satisfactory results. Six deinking pulp and paper companies are now cooperating on the design and construction of the first industrial-size plant to apply and further improve this process."

The J. R. Short Milling Co. through its Soybean Fellowship is attempting to broaden protein uses. "Advances have been made in evolving a satisfactory protein for paper coating," the report reveals.

Mass. Supporting Quoddy Project

EASTPORT, Me.—Massachusetts on August 22 joined Maine and New Brunswick officials, as well as more than a score of New England paper manufacturers, in support of the Passamaquoddy tidal power project.

The Massachusetts support came before the International Joint Commission hearing in which Gov. Frederick G. Payne (R) of Maine said Quoddy is essential for development of northeastern United States and Canada.

"Massachusetts is interested," said Orville S. Poland, representing Gov. Paul A. Dever of Massachusetts, "because Quoddy touches upon the foundation of our economy. We either must develop more electric power or we will lose our industrial supremacy."

The commission was told by U. S. Senator Margaret Chase Smith (R) of Maine that Quoddy should be judged on its merits. And Maine's other Senator, Owen Brewster (R), said the proposed development, by which the exceptionally high tides of Passamaquoddy Bay would be harnessed, is not the "fantasy of the politicians."

Poland gave the commission figures showing that it costs New England $176,000,000 more for electrical power than if the same power had been purchased in the Tennessee Valley area. "It is too high a subsidy to pay for inefficient methods," he said.

Dewey Approves Compact

BOSTON, Mass.—New England paper manufacturers were informed on August 22 that New York's Gov. Thomas E. Dewey has given final approval to New York becoming a member of the New England Interstate Water Pollution Control Compact. The pact, designed to provide joint action in combatting water pollution, previously had been approved by Massachusetts, Connecticut and Rhode Island. Action still is pending in Maine, New Hampshire and Vermont. Each signatory state names five commissioners to the operating agency, the New England Interstate Water Pollution Control Commission.

Victory Paper Grading Co. Opens

MEMPHIS, Tenn.—The Victory Paper Grading Co., a new enterprise for Memphis, has opened at 704 Dudley street. W. Blockman is owner of the firm, which is housed in a one-story concrete block building with 10,000 square feet of floor space, and now is operating with 12 employes. A number of independent dealers are feeding waste paper to the firm, Mr. Blockman stated. The new firm has loading docks for three freight cars and eight trucks.

Canadian Newsprint, July Results

OTTAWA—Canadian newsprint production, including Newfoundland, was 421,475 tons in July as against 437,043 in the preceding month and 424,500 in the similar month of last year. The decrease from last year was 0.7 percent.

Cumulative production for the seven months of 1949 was up 5.7 percent over the like period of last year, amounting to 3,027,025 tons compared with 2,864,044.

Shipments by Canadian mills in July amounted to 412,127 tons as against 447,961 in June, 1949, and 409,698 in July, 1948. Seven months' shipments were 2,962,999 tons against 2,809,824, an increase of 5.5 percent.

Canadian mills operated at 101.2 percent of capacity in July against 102.4 in the preceding month and 102.1 in the like month of last year.

Of Canada's July shipments of 412,127 tons, 27,534 tons went to customers in Canada, 353,059 tons to the United States, and 31,534 to other markets. Of the latter, 12,650 tons went to the British Isles as against 8,358 in the like month of last year. For the first seven months, shipments overseas totalled 268,080 tons against 296,243 in the like period of last year. Shipments to the British Isles amounted to 70,878 tons against 64,566.

Wisconsin Payrolls, June

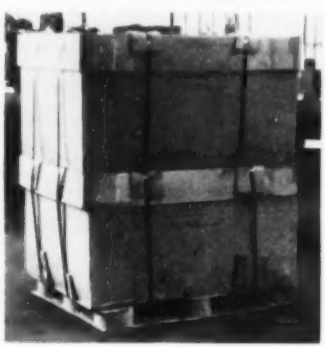
MADISON, Wis.—The Industrial Commission of Wisconsin, in its report for June, estimated production workers in the paper and allied products industry at 27,400, up 100 from the previous month.

Estimated weekly payrolls during the same period rose to $1,571,000, up $16,000 from the month before or one percent.

Average amount earned per worker was $57.42; average hours worked, 41.2.

Paper Mill Wages States Highest

RALEIGH, N. C.—The State Department of Labor reports that weekly earnings during July in North Carolina "pulp and paper mills (with an hourly pay scale averaging $1.52) were the highest in the state with an average of $68.80."



EXPENDABLE PALLET

One thousand pounds of automobile mufflers in 350 test corrugated Power Pack on expendable corrugated pallet . . . Photo shows condition after shipment from Michigan to Wisconsin.

Wisconsin July Compensable Injuries

MADISON, Wis.—There were 66 compensable injuries reported in the paper and allied products industry of Wisconsin during July, the State Industrial Commission reports.

Largest number of injuries (ten) were caused by machines. Working surfaces, such as ladders, were next with nine. Hoists, elevators and conveyors were responsible for seven. Vehicles, other than motor, caused six more. Hand tools caused another six. The rest were from miscellaneous causes.

Canadian Revenue Freight

OTTAWA.—Revenue freight carried by Canadian railways during 1948 included 3,736,513 tons of newsprint paper, 917,591 tons of other paper, 686,626 tons of paperboard, pulpboard and wallboard paper, and 2,311,901 tons of woodpulp, compared with 3,745,371 tons of newsprint paper, 802,316 tons of other paper, 653,364 tons of paperboard, pulpboard and wallboard paper, and 2,217,010 tons of woodpulp in the preceding twelve months, Canadian Government announces.

Kingston Partnership Dissolved

KINGSTON, N. Y.—Merle F. Fountain has given notice of dissolution of the partnership of himself and Donald F. Griffin as operators of the Griffin Paper Co., 96 Furnace street. The change was effective as of August 6, and the wholesale paper business will now be conducted by Mr. Griffin, Mr. Fountain said.

SUPPLIERS . . . . .

Pillsbury Mills, Inc., Minneapolis, is now supplying industrial enzymes in pre-measured units, capsuled like large vitamin pills, to paper mills for use in the preparation of starch for paper coating. The firm also uses the enzymes in the coating of flour sacks in its Wellsburg, W. Va., paper mill. J. Thomas Haigh heads the technical department at the technical service laboratory in Minneapolis. The field organization is under the direction of Rowland A. Gale in New York. W. Brooks Fields, Minneapolis, is in charge of other administrative operations by the division. "Marketing of enzymes involves process selling," says Mr. Bowman. "Some aspects of the capsules are patentable from both the product and method standpoint," he added. Part of the function of the Minneapolis laboratory is to "tailor make" enzyme products to fit customer requirements.

Manchester Machine Co., newly formed in Middletown, Ohio, has acquired the assets of the Bevis Machine Co., of that city, including lathes, vertical boring mills, roll grinders, radial drills and various automatic machines. Also transferred to the Manchester

Machine Co. is the machine shop equipment of the Gardner Board & Carton Co. A welding shop is included in the facilities of the Manchester company. The new firm, a subsidiary of the Gardner company, is an Ohio corporation with stated capital of $250,000. It will manufacture, service and repair industrial machinery. James Boyd of Hamilton, Ohio, is president of the Manchester Machine Co.; Floyd T. Lockard, treasurer; and Ivan Hurr, secretary. Colin Gardner 3d, E. T. Gardner, Jr., and W. B. Turner will serve on the board of directors with Mesrs. Boyd and Lockard. Shop superintendent is George Schaefer, and Henry Alford is assistant superintendent. Both were Gardner men. John Carmody has been named office manager. Gardner Machine Shop and Bevis Machine Co. shop personnel are being transferred to the Manchester company.

George Eastman House will be opened to the public on November 9, Dr. C. E. Kenneth Mees, president of the photographic center in Rochester, N.Y., reports. Plans for the opening include ceremonies to be held in the Eastman Theater and at the house November 9. Distinguished visitors from the world of photography and related arts and sciences are expected to attend. The collections of historical photographic equipment and materials are now "substantially ready for installation," Oscar N. Solbert, director of the photo center, said. Space for contemporary exhibits of photography in science and industry has also been included. It is expected to become a world center for the demonstration of photography as an art and science.

Diamond Alkali Co., Cleveland, has named Earl J. Mills, heretofore manager of less-carload sales at its Chicago sales office, manager of the Southwest sales district, which embraces Texas, Oklahoma and Kansas; and placed Charles W. Klaus, heretofore manager of carload sales at Chicago, in complete charge of Diamond sales activities affecting Illinois, Indiana, Iowa, Michigan, Iowa, Michigan, Minnesota, Wisconsin and Nebraska. Mr. Mills is headquartered at Houston, and Mr. Klaus remains at Chicago.

Babcock & Wilcox Co., New York, has added to the chemical laboratory staff of its research and development department in Alliance, Ohio, Hayden Jones, Jr., M.S. in chemical engineering from Iowa State College; Norman Phillips, B.S. in fuel technology from Pennsylvania State College; and Earle Young, Jr., B.S. in chemical engineering from Carnegie Institute of Technology.

Cameron Machine Co., Brooklyn, N. Y., held its annual sales meeting at the St. George hotel, August 15-19. Attended by Cameron sales and service men covering the United States and Canada, the meeting was highlighted by the formal opening of the firm's Plant No. 2, located in the Williamsburg section of Brooklyn. The new plant is devoted to production of rolls for slitting and winding machines. Speakers at the sales meeting included Palmer J. Lathrop, president; Joseph Scheuermann, sales manager; Thomas Carter, chief engineer; Eugene Ward, service manager; and Paul Withstandley, advertising manager.

PENICK & FORD CHANGES

Harold Harvey (left) has been named divisional sales manager of Penick & Ford, Ltd., New York, operating out of San Francisco, and S.F.M. Maclaren (right) has been named his successor as divitional sales manager for Ohio, Pennsylvania and northwestern New York. . . Mr. Harvey will serve California, Nevada, Idaho, Arizona, Washington and Oregon. . . He will remove his family from Park Hills, Ky., to San Francisco about January.

Ebasco Services, Inc., reports that Philip H. Hardie and Clarence P. Wilson have become associated with it as principal mechanical engineers. Mr. Hardie, widely experienced in power plant design and engineering, was associated for 15 years with the Consolidated Edison Co. of New York, and prior to that was with the Brooklyn Edison Co. and Westinghouse Electric Corp. Before joining Ebasco, Mr. Wilson was in charge of the design of power plants in Alaska. Prior to that he designed power plants for paper mills and other industrial installations.

COCHRANE APPOINTMENT

Sam B. Applebaum has been named manager of the cold process water treating division of the Cochrane Corp., Philadelphia. . . He is also vice-president of Liquid Conditioning Corp., a subsidiary.

DE LAVAL APPOINTMENT

C. C. Bray, named regional supervisor of the DeLaval Steam Turbine Co., midwestern district office IMO - DeLaval Products Div., 1500 South Western avenue, Chicago.

Dorr Co. will move its main office, presently at 570 Lexington avenue, New York City, to the Northam Warren building on Barry place in Stamford, Conn., in December of this year. An office will be continued at the present New York City address, for the convenience of executives of the company, foreign and other visitors, and to accommodate a branch sales office.

E. M. Paulsen of Plastic Printing Plates, Inc., Chicago, will be the featured speaker at the initial meeting of the 1949-50 season for the Chicago Section of TAPPI, at the Chicago Bar Ass'n., 29 South La Salle street, September 19. He will discuss the advantages of plastic printing plates as compared with metal plates.

Photoswitch, Inc., Cambridge, Mass., has named Oscar C. Stark general sales manager with headquarters in the factory sales office at 39 Broadway, New York City. Mr. Stark previously was with the Square D Co. in various sales and management capacities since 1930.

F. H. Bagley has been transferred from the De Laval Steam Turbine Co. Chicago district office to the new Midwestern office at 1500 South Western avenue, Chicago, where he will continue to handle the sales and service of De Laval - IMO pumps.

Mixing Equipment Co., Inc., Rochester, N. Y., has named Roney Johnson II, of Clearwater, Fla., and the Industrial Sales & Engineering Co., Buffalo, N. Y., as field representatives.

B. F. Perkins & Son, Inc., Willimansett, Mass., paper-making machinery manufacturer, is "getting back to normal" after a six-week strike, President J. Lewis Perkins, Jr., reports.

Pusey & Jones Corp., Wilmington, Del., has been cited by the Delaware Safety Council for operating for a six-month period this year with a perfect no-accident record.

Ampco Metal, Inc., Milwaukee, has named the W. P. & R. S. Mars Co., Duluth, Minn., as distributor in northern Minnesota, upper Michigan and northern Wisconsin.

J. Stanley Clark has been appointed manager of the Buffalo, N. Y., branch office of IPI, succeeding Tom Reese, Jr., resigned.

Chain Belt Co., Milwaukee, has named John C. Toomey district sales engineer in its Detroit district office.

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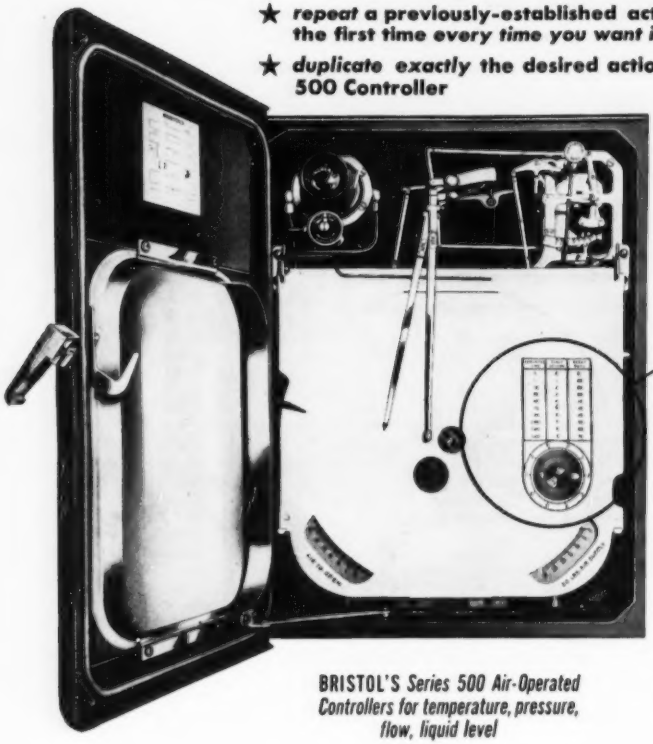

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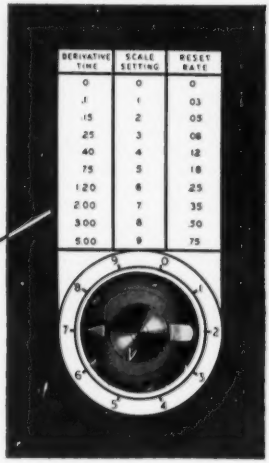

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Some Recent Developments in Kraft Recovery

In Two Parts—Part I

By

T. T. COLLINS, JR. and P. H. WEST*

Thilmany Pulp and Paper Company, Kaukauna, Wis.

P. H. WEST

In the Thilmany mill, as in all other kraft mills, there has been considerable interest in a more complete recovery of the heat and chemicals in the kraft recovery cycle. Because of the shortage and high prices of salt cake and suitable substitutes, the need for reducing the salt cake make-up has been particularly emphasized and many of the mills have installed both electrostatic precipitators for reducing the amount of dust lost out the recovery furnace stack and vacuum washers to save a part of the sodium salts which would be lost if the pulp were washed in diffusers.

Important as this soda recovery is, however, we must not lose sight of the chemical losses at other points in the recovery and as soda losses are reduced we find that the sulfur loss, out of proportion to sodium, is accentuated. It is difficult to evaluate the sulfur loss economically but every kraft pulp mill operator is aware of its technical importance and maintenance of cooking liquor sulfidity can be quite a problem in those mills with a low salt cake make-up.

The potentialities of utilization of the heat in the recovery furnace stack gases, either for making hot water or evaporating liquor, begin to look interesting when one considers the vast quantity of heat lost, even though it is recoverable at a relatively low level. With the application in the future of such units as heat pumps or thermocompressors, such heat may eventually be recoverable at a higher level.

In addition to the losses of sodium salts, sulfur gases, and heat from the recovery furnace, it is also of some interest to mention the loss of lime dust in the stack gases from the lime reburning operation. This does not represent a serious economic loss because its causticity and soda content are low, but, from a nuisance standpoint, lime dust can be one of the worst offenders in conjunction with a kraft mill.

To give some idea as to what some of these losses in the recovery cycle amount to, we have prepared Tables I and II in which are also shown the value, at today's costs, of waste chemicals and heat in the Thilmany stack gases before we started our work.

Table I

Quantity and Value of Heat and Chemicals in Thilmany Sulphate Recovery Furnace Stack Gases

Pulp produced	150 tons per day.
Volume of stack gases	50,000 c.f.m.
Temperature of stack gases	300° F. dry bulb 163° F. wet bulb. ↑
Stack gas dust equivalent to	20,000 lbs. per day of salt cake.
Value (@ $25 per ton)	$250 per day.
Hydrogen sulfide* from stack	4,000 lbs. per day.
Sulfur dioxide from stack	400 lbs. per day.
Stack gas heat above 140° F.	500,000,000 B.t.u. day.
Value (@ $0.80/1000 lbs. of steam)	$383 per day.
Stack gas heat above 120° F.	750,000,000 B.t.u. day.
Value	$571 per day.
Stack gas heat above 100° F.	900,000,000 B.t.u. day
Value	$686 per day.

* Includes mercaptans.

The Venturi-Scrubber

At Thilmany we have developed and now use a Venturi-Scrubber instead of an electrostatic precipitator for recovering the major portion of the salt cake formerly lost out the recovery furnace stack. Because the history of the development of this unit and its theory have been documented and described in a number of published papers, it is best at this time to refer interested parties to these articles (1, 2, 3, 4). *See Part II.*

Table II

Quantity and Value of Heat and Chemicals in Thilmany Lime Kiln Stack Gases

Pulp produced	150 tons per day.
Volume of stack gases	12,000 c.f.m.
Temperature	525° F. D. B. 163° F. W. B.
Dust in stack gases	10,000 lb. per day.
Value @ $2.00 per ton	$20.00 per day.
Heat in stack gases above 140° F.	120,000,000 B.t.u. per day.
Value (@ $0.80/1000 lbs. steam)	$92.00 per day.
Heat in stack gases above 120° F.	180,000,000 B.t.u. per day.
Value	$137.00 per day.
Heat in stack gases above 100° F.	216,000,000 B.t.u. per day.
Value	$165.00 per day.

Perhaps you will be most interested in our general summary of over a year's experience in operating the unit. In the beginning, we had minor design troubles and changes to be made because our unit was the first large one constructed. However, once the men in the mill became experienced in operating the unit and it was simplified as much as possible, operating difficulties became negligible. The scrubber does not require very much attention

T. T. COLLINS, JR.

* Pulp Mill Superintendent.

and the man who operates the vacuum evaporators added the work onto his job. Occasional inspection by the foremen is necessary for best operation and, whenever the furnace is shut down, about every fourth Sunday, the jets are checked and any that have become plugged are replaced with clean ones. Regular inspection and cleaning eliminates plugged jets almost entirely. It is also necessary to by-pass the gases and shut the unit down every week or so for about an hour so that salt cake that collects on the fan can be washed off and the fan balance restored. With a slightly different arrangement, this problem could be handled "on the fly". Occasionally, the liquor filters are switched and the dirty one removed and cleaned of scale and debris that collects in them, and at irregular intervals, usually once a shift, the operator lances the Venturi throat and the pipe support grid ahead of it with a high pressure water stream. During the winter months, no difficulties were experienced in operation and the unit evaporated 5 to 7 gpm of water even in 25° below zero Fahrenheit weather. Only the outside liquor lines were insulated. At the present time, the scrubber has two manual controls. One is the bleed-off valve which regulates the amount of fume solution sent to the disk evaporators and, hence, the concentration of the fume solution. The other valve regulates the flow of liquor to the venturi throat and we usually run with all the liquor we can put into the throat that will still leave us an inch of water vacuum ahead of the venturi atomizer for stack effect on the boiler induced draft fan. Instruments for recording and totalizing the liquor flows and for controlling the draft ahead of the venturi and the concentration of the fume solution are available and we expect to replace manual control wtih suitable equipment in the future.

Figures 1 and *2* show the general layout of the Thilmany Venturi-Scrubber installation.

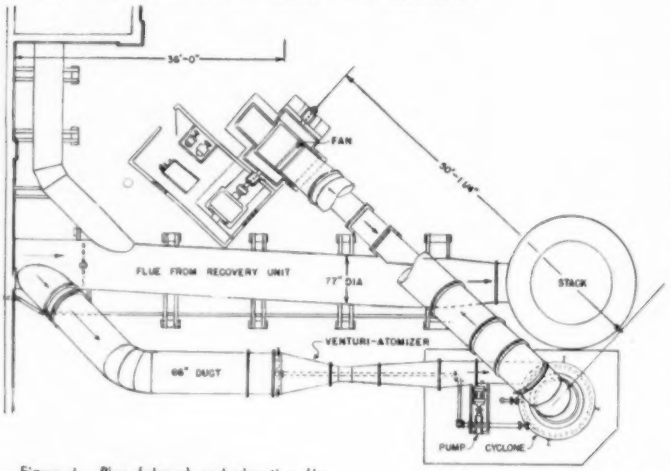
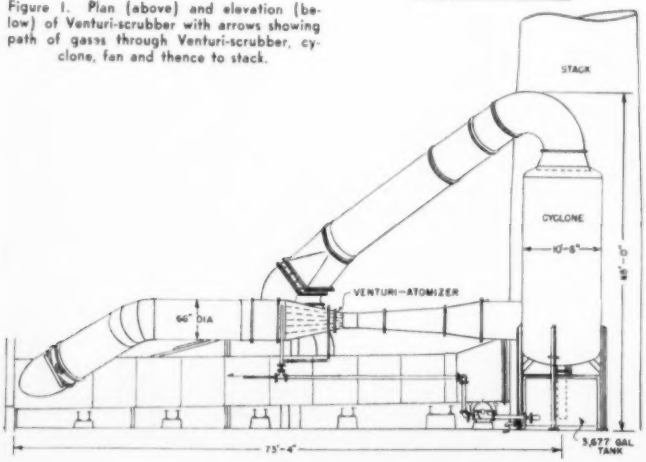


Figure 1. Plan (above) and elevation (below) of Venturi-scrubber with arrows showing path of gasss through Venturi-scrubber, cyclone, fan and thence to stack.



Figures 3 and *4* show the new design of Venturi Atomizer recently installed at Thilmany in order to reduce the pressure drop.

From the economic standpoint, the Venturi-Scrubber has justified its existence. In less than one year from the day we decided to build the full scale unit, the equipment (much of it second hand) was assembled and erected, the unit was tested and placed into operation and paid for. In addition, we had the recovery of over a third of our total salt cake make-up for a period of at least six months and that allowed us to keep the mill running when salt cake was very difficult to obtain. At the present time, we estimate the unit is recovering approximately 90 percent of the dust left in the gases leaving the disc evaporators and we find that the amount recovered runs from 7 to 12 tons per day, depending of course on how the furnace is being operated and how much chemical make-up is being added. We recover about 9 tons per day of salt cake equivalent and this amounts to approximately 128 pounds of salt cake per ton of pulp on the average. Compared to our 1944 through 1946 average of 291 pounds of salt cake per ton of pulp we can say that our consumption of sodium salts, figured as salt cake, for the first eight months of 1948, was approximately 163 pounds per ton of pulp. There were no other significant changes around the pulp mill, other than the scrubber, to account for this.

Since the installation of the Thilmany Venturi-Scrubber on the recovery furnace and a dust collector on the lime kiln, there has been a noticeable decrease in the intensity of the plume of smoke after it gets some distance from the stack and the mist plume has evaporated. There has been no rain outside the stack, even in coldest weather, from the water vapor leaving it. As for odor, the scrubber does not reduce that to any noticeable extent as that is due to hydrogen sulfide which requires special processes for absorption or elimination.

The effect of stack dust recovery at Thilmany on the sulfidity of cooking liquor was exactly as expected. Because the sulfur to sodium ratio of the fume was less than that of salt cake, we immediately experienced a drop in sulfidity of cooking liquor of about 2 to 3 percent. The scrubber does return more sulfur to the system than a dry dust collector would as the liquor absorbs some sulfur dioxide but this effect is not important under ordinary conditions of chemical make-up, as we were operating when the scrubber was placed in service.

When the Venturi-Scrubber started operation, there was very little corrosion of the unprotected steel and the jets in the Venturi Atomizer lasted approximately a month before they had to be renewed, due to erosion. This period lasted from July until November, 1947, and it was indicated that such

units operating on alkaline furnace gases might possibly be built of ordinary steel. However, in November we started adding a large excess of free sulfuric acid above a normal salt cake make-up to the black liquor and immediately our nozzles and liquor pipes started corroding out within 3 or 4 days. We changed the liquor lines to 304 stainless steel pipes and have had no difficulties with corrosion inside the liquor pipes since then. The stainless pipe jets now last indefinitely, although the hot gases ahead of the Venturi Atomizer- are corrosive enough that, when condensed on the stainless steel feed pipes with liquor inside below the dew point of the gas, the outer surfaces of the stainless pipes are badly pitted and in poor condition after a year's use. The liquor side is in perfect condition. There was also such noticeable corrosion of the fan and ductwork beyond the Venturi Atomizer during November and December, 1947, that it has been difficult to observe its progress since then.

As for the failure, after a year's use, of the outer surface of the liquor lines in the hot gas stream ahead of the jet plane of the Venturi Atomizer, a check on the corrosion of the 304 stainless pipes used indicates that this is not the proper material to use and other types of stainless steel have been recommended as being more suitable. It has also been found necessary to put a 14 gauge 304 stainless liner inside the atomized throat as, at low gas velocities, several of the liquor jets strike the wall and one of them eroded a small hole through the mild steel throat wall after eighteen months operation. Another weak spot was discovered when we added the excess sulphuric acid to our recovery chemical make-up was the gate valve used to regulate the amount of liquor going to the atomizer. Originally an all-iron valve, the wedge and seat corroded and eroded away in a month but replacement with a 304 stainless gate valve has completely eliminated this wear.

In trying to trace down the causes of this corrosion, we found that the large excess of sulfuric acid which was added to and more than neutralized by the concentrated black liquor before it was sprayed in the furnace had caused the fume solution used for scrubbing to have pH values of 5.8 to 7.0 for a good proportion of the time. In addition, the fume was analyzed and found to be approximately 2/3 sodium sulfate with the other 1/3 being sodium sulfite and thiosulfate where it had previously contained considerable sodium bicarbonate and very little of the sulfite and thiosulfate. It appears that corrosion in our system was accelerated to many times the normal rate by the use of chemicals which gave us a more acid system by reducing the alkalinity of the fume and increasing its sodium sulfite content, as well as probably increasing the amount of sulfur dioxide in the stack gases.

Another step which we took to combat corrosion was to add soda ash at intervals to the scrubber liquor sump tank so as to maintain the pH of the liquor between 8 and 9. This is necessary only when the furnace is operating with a small nozzle and high chemical make-up at low production rate. With this step and changing of the air supply to the furnace at the first of the year, we seem to have slowed the corrosion to an important extent.

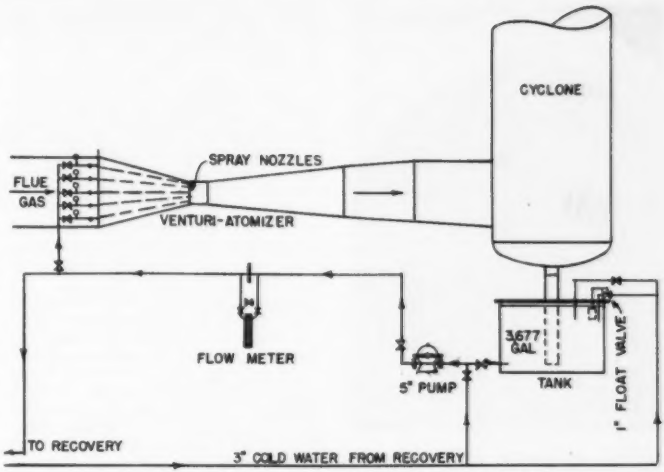


Figure 2. Flow chart of Venturi-scrubber showing control valves.

For the first year of operation, the ductwork and fan of the Venturi-Scrubber were not protected against corrosion. In July, 1948, all the ductwork from the top of the cyclone, through and including the fan, and then into the stack was sand-blasted and coated with 7 coats of Amercoat No. 44. Because of elevated temperatures reached in the gases for short periods of time, it was anticipated that the paint might not last as well as it does under other applications. In July, 1949, after one year of service on the paint, it was found to be in very good condition, considering its use, except where there is erosion by salt crystals in the gas. When the coating was originally applied, recommended drying times were shortened and we feel this caused most of the small bubbles in the finish in certain areas.

The coating did not stand up on the leading edges of the long blades on the fan rotor and on the outer scroll of the fan housing due to erosion from minute salt crystals evidently formed when the gas is compressed by the fan. To repair this damage, the fan blade edges were renewed by welding in new edge strips and the fan housing scroll was lined with 14 gage No. 304 stainless sheets plug welded on one foot centers. The unit, except for the stainless liner in the fan, was then sand-blasted to bare metal and a complete coating of Amercoat No. 44 applied. It

↓ Figure 3. Entrance to Venturi-Scrubber.

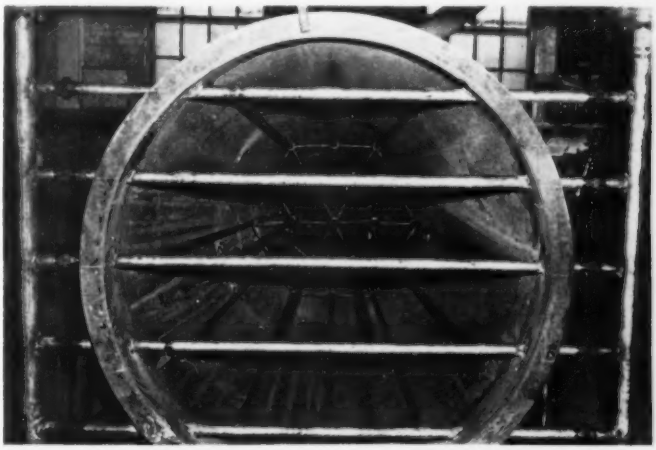


Figure 4. Throat section of Venturi-atomizer.

is anticipated from our past experience that the coating in the duct will be good for two years but that the fan rotor will have to have the leading edges made of stainless steel and will need repainting each year.

Another problem which faced us, in using a wet scrubbing system that cooled our gases to the dewpoint, was the possibility of a "wet" stack. We found that, in subzero weather, condensation takes place in the stack even though our hot lime kiln gases go into the same stack and contain a considerable amount of sensible heat above the dew point. As the Thilmany stack has been in poor condition for some time, it was predicted that condensation would not be desirable and it is anticipated that eventually the scrubbed gases will be exhausted through a short steel stack or a new lining will be installed in the present stack.

Considering our past experience with the scrubber operating on fume solution and the improved efficiency and the lower power consumption which has been found for more recent designs of Venturi-Atomizers, we have calculated the economics of a Venturi-Scrubber constructed at all the essential parts of stainless steel, and we find that on sulfate recovery stack gases at equal efficiency of recovery, the scrubber shows a slight advantage over competitive equipment from the standpoint of yearly costs. It also requires a much lower initial capital investment.

After the scrubber was made to operate successfully on a large scale, on fume solution, the next logical step was to study the possibilities of scrubbing with concentrated black liquor so that one unit, the Venturi-Scrubber, would replace the cascade, or cyclone, or disk evaporator *plus* the electrostatic precipitator. Accordingly, engineers from the Babcock and Wilcox Company operated our pilot plant scrubber on the hot stack gases leaving the air heater on our B&W furnace and scrubbed successfully with 60 to 65 percent solids black liquor. The results indicate a fan power cost about 50 percent greater than the full-scale scrubber operating on fume solution at Thilmany and the unit on the average recovered 85 percent of the dust entering the Venturi Atomizer. This is not as high a recovery as has been obtained with a disk *plus* an electrostatic or fume solution scrubber, but, because only one unit is needed, the economics are improved and lower investment is required. The logical choice, especially in a new mill or one which had to replace its disks, would be the black liquor scrubber, unless the very highest efficiency and cleanliness of gas are required. It is expected that further research will improve the collection and power efficiency of the black liquor scrubber that would be based on present data.

(To be concluded in Sept. 8 issue)

Waste in Paper Mill Drying and Ventilating

By

A. E. MONTGOMERY

Vice-President, J. O. Ross Engineering Corp., New York, N. Y.

Is it because heat units are so intangible, and because of all papermaking materials air is the most intangible, that waste in drying and ventilating is so seldom recognized or is accepted as unavoidable or unimportant?

What is waste? Of course it is that portion of operating cost which *can* be eliminated but is not. Let me offer another definition: Waste is that unnecessary expense which is or could be recognizable by the operating man or engineer, but which is *concealed* from the cost accountant. The cost records never indicate an item of waste even though it be larger than many another carefully evaluated cost. But among the cost items waste is there hidden under other respectable names—coal perhaps, or steam. Search out these odious, sly, concealed waste items, eliminate them, and then inevitably the cost accountant shows on the other side of the ledger a corresponding increase in the item of profit.

Air as a Papermaking Material

Air is such an intangible material, so freely to be had apparently without cost in any amount, and so easily disposed of when one is through with it, that its economic importance as a material is easily overlooked.

The terms, however, by which we measure air quantities are not easily comprehended, even by those working with the handling of air continually. We speak of 20,000 or 150,000 cubic feet of air a minute, but as a referent by which we may comprehend the significance of that volume we are forced to think in terms of the size of apparatus or duct work needed for handling it.

We talk of paper machine room heating and ventilating. Heating is no problem—more usually the problem is cooling. Ventilating is just a convenient way of naming the process of introducing air to carry out moisture and heat. Heating and ventilating of a paper machine room, therefore, is essentially a problem of drying, and it is the use of air in the drying process that requires the attention of the so-called heating and ventilating engineer.

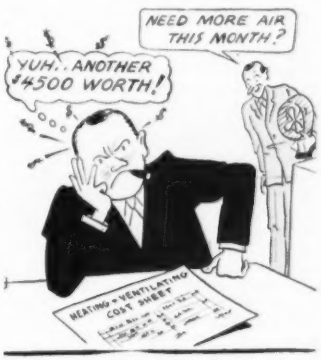
Suppose we reduce the terms normally used in ventilating practice to concrete figures exact and easily understood. For the purpose we shall assume a paper production of 100 tons per 24 hours. The figures which follow can be multiplied or divided by the ratio of any other tonnage. Further assume 2.0 pounds water evaporated per pound of paper as dried, as would be the case with 31.5% dryness going on the dryers and 5% moisture leaving. Average good ventilation practice with a hooded machine would require about 134,000 cubic feet per minute (cfm) at exhaust condition, equivalent to 112,000 cfm make-up air at standard 70 deg. F. Now this is 8,300 pounds per minute dry air plus contained water, or 4.15 tons dry air per minute, or 248 tons per hour, or 6,000 tons per 24 hours. Yes, 60 tons dry air per ton of paper, and that is a good, conservative figure.

But how much steam does this rep-

resent, we want to know, and how much does this air material cost? Let us assume the air is heated from 32 deg. F. outside temperature to 112 F. exhaust temperature, or just 80 degrees. That takes 10,000 pounds of steam per hour for our 100 ton mill, and there is no way to heat it with less. Note this figure 1.2 pounds steam per pound of paper just to heat up the air required to carry out the water from drying the paper—about one-third of all steam required in the machine room.

Now further let us assume this steam costs 75c per 1000 pounds from and at 212 F., and that has become a pretty reasonable cost in these days of expensive fuel. The air then costs $7.50 per hour or $180.00 per day, and figuring 25 days per month it amounts to $4,500 per month.

If your heating and ventilating salesman came to your 100 ton mill to secure your order to supply you with heated air for the requirements for the month with the average outside temperature of 32 deg. F., you would have to place your order with him for 150,000 tons of dry air, for which he would charge you the bare heating cost of $4,500. He would agree to be back in exactly one month for your next month's requirement. After you had been placing an order for this papermaking material with this salesman for some months perhaps you would begin to inquire of him as to whether you were using his product as economically as you could, and you certainly would begin to consider as to whether means could be devised to cut down on the need for, and



the consumption of, this rather expensive material.

The figures given represent good average practice. Better or poorer practice can actually increase or decrease the air amount easily one-third, or plus or minus $1,500 per month for this hypothetical mill, and with special equipment to be mentioned later, a very much larger saving is possible. With —20 F. instead of 32 F. outside, these costs would be increased about 62%, and with 70 F. outside, decreased about 44%.

Leaving out of consideration the pulping or converting departments, the heat from virtually all the steam generated in the boiler house of a paper mill passes out with the exhaust from the paper machine dryers. The only other heat losses worth mentioning are the comparatively insignificant building radiation and the heat in water running to the sewer. If the air and the contained Btu's were as tangible as the coal going into the boilers, the well-operated mill would have careful measurements being made continually.

What, then, can be done about it? How can the air bill be cut?

Reducing Exhaust Volume

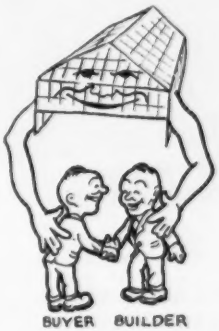
The most obvious thing to do is to decrease the amount of air used, and certainly not use any more than necessary for good drying and satisfactory machine room conditions. This requires concentration of the water vapor at the source by means of a proper hood. A hood is a first requisite to the proper economic use of air. Equivalent or better working and drying conditions are possible with a hood using 20% or 25% less air, and the saving in steam alone which results from the use of a hood will return the entire investment in about three years. Now there are some peculiar facts about hoods.

It is natural to think that with a given hood and given amount of vapor to remove, reducing the exhaust volume would cause the relative humidity of the exhaust to rise proportionately. Such is not the case. Actually as the exhaust volume is cut down the relative humidity or percentage saturation may either rise or fall, or perhaps first do one and then the other. Invariably, however, a decrease in exhaust volume means an increase in temperature, and of course an increase in absolute humidity. It is therefore a mistake under any given hood condition to assume that the relative humidity can be used alone as a criterion of the hood performance, or that by varying the exhaust volume the percentage humidity can be varied to some presumably correct amount, as for example 80 per cent. Let's see why that is.

Suppose we mix equal volumes of air 50 per cent saturated at 75 F and 50 per cent saturated at 125 F. Will the resultant mixture be 50 per cent saturated at 100 degrees? No, it will actually be 67 per cent saturated at 98 F. Or, suppose air 50 per cent saturated at 70 F is mixed with an equal volume of air 50 per cent saturated at 150 F. Will it be 50 per cent saturated at 110 F? No, this mixture will be 96 per cent saturated at 106 F. Incidentally fog (which is nothing but an air-water vapor mixture over 100 per cent saturated) if formed in a machine room or between the dryers is commonly due to a well saturated mixture at high temperature being mixed with another air-water vapor mixture at lower temperature.

But to return to the hood, reducing the exhaust volume is tantamount to reducing the amount of the cooler room air to be mixed with the high temperature and high humidity air from the machine dryers, with the consequence that the temperature of the mixture is higher, and the percentage saturation may possibly even be lower. This points to the importance in hood design for maximum economy of having ample gathering space under the hood into which the very hot, humid air may rise and stratify before removal by the fans or exhaust stacks.

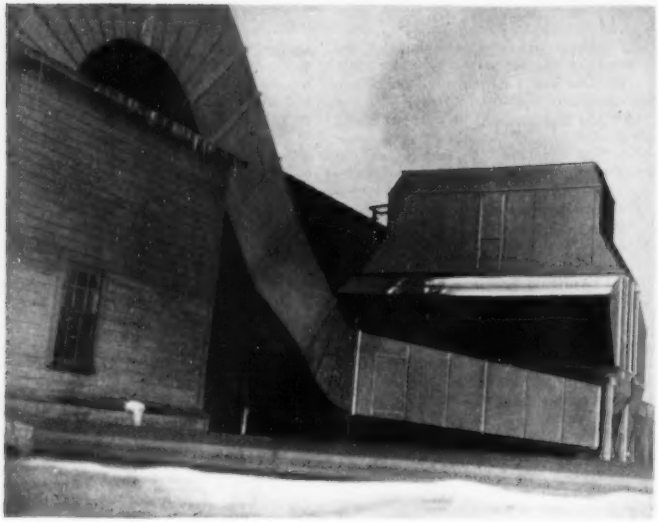
What is the effect of reducing the exhaust volume indefinitely, if the relative humidity does not rise? Well, hood or roof drip is likely. But worse is the reduced drying capacity, the decreased life of the dryer felts, and the definitely



worse machine room working conditions. The amount of water evaporated on the wet end of a Fourdrinier machine, which must be removed, is not generally appreciated. As a result a compromise must usually be sought. Still, much can be done in making considerable savings by having proper exhaust volume.

Perhaps the worse offender against economy is the natural draft stack or monitor. In the winter the paper machine requires the least exhaust and it is then that the heating of excess air from the outdoor temperature to the exhaust temperature is the most expensive. But it is precisely then that the natural draft stack pulls the hardest. In the summer when the most volume is required and an excess for comfort is desirable the natural draft stack lays down. Fans afford a constant and controllable exhaust volume. Fortunately the first cost of fan exhaust is not more than the cost of natural draft stacks because the stack area may be so much smaller and still handle the same volume.

Methods have been suggested and used to some extent, though not as commonly as it seems they should be, for controlling the exhaust and supply volumes by the temperature and humidity condition of the machine exhaust. Thus whenever the paper goes off the machine the volume automatically is drastically reduced. Also it is adjusted automatically as necessary to changes in production rate and climatic conditions. Certainly the cost of such automatic control, if successfully applied, can be returned many times over in the



Ross-Briner Economizer

course of one year. Strange that more attention has not been given to this!

Controlling Supply Air Temperature

Thermostatic control of the supply air temperature is now recognized generally as economically desirable, yet how many heating units there are depending on occasional and disinterested attention as to the supply volume temperature. I recall going through one small mill on a warm day in the spring and observing a most uncomfortably high temperature in the machine room. Finding the heating unit running with the full steam pressure on the coils I inquired why that was done, only to be informed that they guessed they just hadn't turned it off since Winter. That heating unit not only was making the working condition unnecessarily bad, but was utterly wasting a considerable quantity of steam. It was a small mill, and the unit handled only about 30,000 cfm, heating this from about 75 to 125 F. But with steam then at 40c per 1000 pounds this amounted to $17.60 per 24 hours or at the rate of over $100 per six day week. It is an example of odious waste.

Under even careful supervision, however, thermostatic control is a good investment. It is not practicable to use a room thermostat in a paper machine room. Until recently the type of control used maintained a constant supply air temperature as chosen by some person, maintaining this set temperature regardless of changes in steam pressure or entering air temperature, but for best economy it did require that some interested individual reset the controller to suit changed requirements. The presently used control is of an inverse differential type using master and sub-master regulators, whereby the supply air temperature is controlled by the outdoor temperature and is at all times maintained automatically at a minimum consistant with freedom of building or hood condensation, good drying and comfort of operators.

Using Efficient Apparatus

The use of improperly selected, inefficient or incorrectly installed apparatus creates important wastes. Numerous illustrations could be given such as, in one mill, a large fan which for years had been running backwards delivering perhaps one-quarter the air volume with the same power that it would have with the proper rotation. It was a large fan with a 40 hp motor, but 30 hp was wasted. At 5 mills per K.W.H. and 200 days operation per year this repre-

sented a waste of $535 per year for power besides little use of the needed air system.

Much more commonly, fans are improperly selected or installed. One mill considered it had made a smart purchase of a large second-hand school house fan until shown that the power consumption over that needed by a modern fan properly selected would pay for the new fan in less than one year. Equally wasteful of power can be a poor duct connection on the fan outlet.

Dampers are often found closed with no one interested enough to find out why the desired ventilation results are not obtained. Fresh air intakes are covered with fine wire or cloth in the ill-considered attempt to filter the incoming air that way (would it were as simple as that!) and in consequence the air system is ineffective, the expenditure for it is yielding little return, and the power input is wasted. In paper mills power may be comparatively cheap, but those power wastes year after year add up to highly significant sums.

Making Most Advantageous Use of Air

Inasmuch as all the air exhausted from the machine room to carry out the evaporated water must necessarily be brought in and heated up from the outside temperature to the exhaust temperature, it is economically wise to use that air first where it will do the most good. In the most crude arrangements all the air is drawn in through openings, crevices, open doors, and by infiltration through mill walls in all connected parts of the mill, and is heated by pipe coils, unit heaters, and by radiation from the machine itself. It takes no more heat to bring it in directly under control through steam coils, and then to distribute it to get the greatest possible gain out of it before it serves its final intended purpose as a conveyor of the evaporated water. Some must be used of necessity to prevent roof and wall condensation in the machine room, to heat and ventilate the connected stock preparation room, the finishing room and the machine room basement, but after these requirements are met the balance should be used to secure the greatest good from a drying standpoint. On a board machine without dryer felts this points to the common vapor absorption system by means of which air is delivered through nozzle pipes directly against the sheet, thereby increasing the drying capacity of the machine 10 to 25%. On a dryer section with dryer felts a good portion of the air may be supplied with advantage through a felt drying system to the machine pit or to the basement beneath the machine. It is seriously wasteful to miss the opportunity of securing the increased drying capacity which can be obtained from this air when the benefits may be had for a relatively small additonal expenditure for apparatus and piping and the power for driving the fan.

Recovery of Heat: The Briner Economizer

The Creator gave man a heat recovery device in connection with his "air system." As air enters, heat is transferred from the nasal passages to preheat the air: as man exhales, the heated air gives up part of its heat to the cooler nasal passages. The Briner Economizer is a somewhat similar heat recovery device for paper mills.

We have seen that the exhaust from

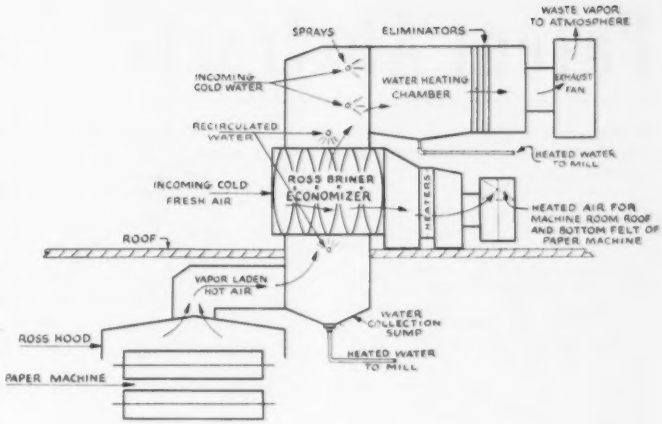
the paper machine carries with it a tremendous amount of heat. The heat from nearly all the steam supplied to the paper machine room (including the paper dryers) goes out with the exhaust either as sensible or latent heat. For our 100 ton paper mill, if it takes 3½ pounds of steam per pound of paper to dry the paper and to heat the air for carrying away the water vapor, then the heat equivalent to 700,000 pounds of steam is exhausted each day. Using once more our assumed cost of 75c per 1000 pounds of steam, heat which cost $525 is passing away, lost forever, up the stacks to the outside *each day*. What is more natural than to try to recover part of this heat?

The Briner Economizer is simply an efficient heat interchanger for abstracting heat from the hood exhaust to heat the incoming outdoor air. Waste heat is used instead of steam. Let us figure what this Briner Economizer will do for our 100 ton mill.

The amount of heat recovery from a Briner Economizer is naturally greater when the outdoor temperature is lowest. The following table gives the heat recovery and steam saving which would be secured on an average machine of 100 tons per day capacity at different outside temperatures. Note the equivalent boiler horsepower, from which it is apparent how the Briner Economizer aids the boiler house by taking care of peak heating loads, both seasonal and daily, requiring decreased boiler house investment, and ordinarily resulting in somewhat better boiler house efficiency. The monthly steam saving is based on 25 working days per month.

Probably everyone knows the Briner Economizer is almost standard equipment in the Northland, but suppose our 100 ton mill is along the design isothermal extending through St. Louis, Cincinnati and New York City. Here we have an average temperature for the three coldest months of 32 F., and the five next coldest months of 51 F. We can figure the use of the Briner Economizer for these eight months, remembering that there are many cool nights during the four warmest months, and further that even in comparatively warm weather if the Economizer can be used the heat recovered is a direct saving the same as during the coldest weather. Our figures will be based on heating the 112,000 cfm required for carrying out the vapor, and we will base our figures on 25 days per month, 970 Btu per lb. of steam, and a steam cost of 75c per 1000 lbs. The results are summarized in *Table I*.

Ross-Briner Economizer installation on roof of three-machine mill.



Flow chart of Ross-Briner Economizer and water heater system

Briner Economizer Savings for 100-Ton Mill

Outdoor Temp.	Temp. after Briner Economizer	°F. Temp. rise	Equivalent Steam Lbs./hr.	Boiler h.p.	Savings per month of 25 days (75c per 1000 lbs. steam)
-20 F.	75 F.	92	11,700	338	$5,260.00
0	78	78	9,900	287	4,450.00
20	84	64	8,100	235	3,640.00
40	90	50	6,350	184	2,860.00
60	96	36	4,100	132	1,840.00

	3 coldest months	5 intermediate months
Outside average	32 F.	51 F.
Temperature after Briner	87 F.	93 F.
Temperature Rise	55 deg.	42 deg.
Average steam saving, lb./hr.	6,980	5,340
Saving, average daily	$126	$96
Saving, for period	$9,400	$12,000
Total Annual Steam Saving		$21,400

This steam saving of $21,400 per year for our 100 ton mill is in what we consider warm country. The further north, the greater the saving. Without the Briner Economizer we pay this amount for steam: with the Briner Economizer, recovered waste saves this amount. The saving often will pay for the entire Briner Economizer installation in a couple of years, and will return large dividends thereafter. In one sense you pay for the Briner Economizer in the coal bill even if you do not have it, but install it and this hidden waste appears in the balance sheet as an annual profit.

In any board mill where the Briner Economizer can be used to heat the air for Vapor Absorption, or where it can be used to heat air for a Yankee Vapor Absorption System or for a felt drying system, and hence can be used during the summer months as well as winter, the annual saving is still further increased.

Recovery of Heat: Water Heating

Another method of recovering heat which otherwise is wasted is to use part of the heat in the paper machine hood exhaust to heat water, which then is used in process. The amount of steam used for heating water is often far greater than is realized, and insofar as fresh water or white water heated with waste heat replaces water heated with steam there is a definite steam saving. The uses for the heated water, and the manner of heating it, are described in detail in a paper by L. G. Janett published in *Paper Trade Journal* March 25, 1948. One mill figures a steam saving due to water heating for the year 1945 at $8,936. The investment needed for a water heating installation is relatively low compared with the saving.

Conclusion

Does not a paper mill prepare careful studies and go into very exact specifications when buying a boiler, and does it not, with careful cost figures, demand the last bit of efficiency from the boiler house? But does it insist on similar high efficiency in the use of this carefully valued steam? Only too often the mill management never knows whether or not the drying and ventilation is efficient of steam. Air is so intangible! Mill officials may *waste* many cents per ton in cost of water evaporated from pulp, paper or board. But if we think of air as the expensive paper making material which it is, the way has been shown to lower its cost and conserve on its use.

In competitive times no mill can afford indifferences. The possible savings are too large to be ignored. They are important enough to justify the most careful study.

Patent Abstracts

● ***In addition to abstracts on the technology of pulp, paper and related industries, miscellaneous abstracts which may provide useful information to our readers are included herein.***

2,464,075—Process for Simultaneously Recovering Protein and Hemicellulose from Oil Seed Residue Meal. Glenn Davidson, Aurora, Ill. Filed June 2, 1948—Issued March 8, 1949.

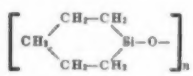
A process of making an adhesive, comprising, first, digesting soya bean meal with treating-material consisting of an aqueous alkali solution and dissolving the protein and suspending hemicellulose in the solution in finely divided form while not attacking cellulose fiber, then feeding the mixture to a screen surface having openings not larger than 200 mesh fineness and matting and retaining the cellulose fiber while freeing the fine hemicellulose by rapid vibration to pass through with the liquid, and finally precipitating the hemicellulose together with the protein by acidulating the liquid.

2,464,198—Process for Preparing a Chemical Composition for Water Purification. Goldsmith Hall Conant, Jr., Cambridge, and John Carrel Morris, Sudbury, Mass., assignors to the United States of America as represented by the Secretary of War. Filed Aug. 24, 1945—Issued March 15, 1949.

A process for making a water disinfectant comprising mixing equal molecular equivalents of glycine, diglycine hydriodide, and iodine, forming a slurry of said mixture with ethanol and drying said slurry.

2,464,231—Method for Preparing Pentamethylene Silicone Polymers. Joseph M. Hersh, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware. Filed June 18, 1945—Issued March 15, 1949.

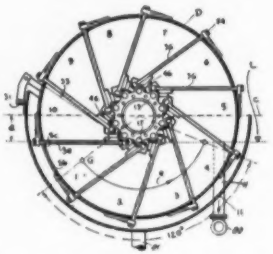
The method of producing an oily polymer of the following structure:



where *n* is from 5 to 50 which comprises hydrolyzing a cyclo-silicon halide in an ice bath to produce a primary cyclo-silicone having the above structure but in which *n* is not more than 5, recovering such primary cyclo-silicone and dissolving it in an inert solvent, and contacting such solution for a period of about one-half hour with an acid-acting chemical condensing agent.

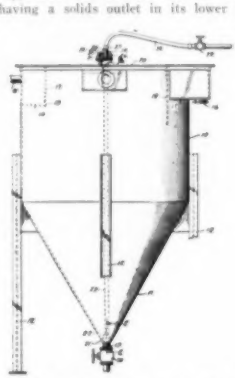
2,464,223—Continuous Disk Filter. Albert L. Genter, Baltimore, Md. Filed Aug. 8, 1944—Issued March 15, 1949.

Filtering apparatus comprising a shaft having a plurality of longitudinally extending filtrate conduits therein disposed around the shaft axis, a plurality of equally spaced spokes mounted on said shaft in a plane perpendicular to said axis, said spokes being disposed as tangents of a circle concentric with the shaft, triangular filter disk segments with side filtering surfaces mounted between conforming to the spaces defined thereby, each of said segments having a drainage opening adjacent said shaft, said shaft having openings to the filtrate conduits respectively aligned with the disk element openings, each pair of aligned openings being on a line parallel to a line parallel to one of the adjacent spokes, and a telescoping connection between each pair of aligned openings on the line thereof.



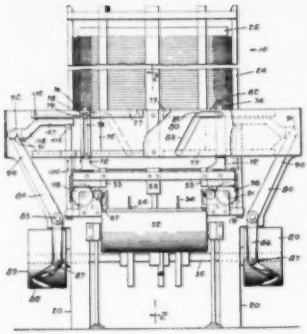
2,464,264—Settling Apparatus. Claude B. Schneible, Detroit, Mich. Filed June 4, 1945—Issued March 15, 1949.

In apparatus for the removal of solids, a tank having a solids outlet in its lower portion and a liquid outlet in its upper portion, means for introducing liquid and solids into the tank, a hollow stem guided for reciprocal movement in said tank and having its lower end adjacent said outlet, closure means carried by the ends of said stem for closing said outlet, means for introducing liquid into said stem for discharge at said tank outlet to stir the solids adjacent the outlet, and means for reciprocating said stem while said liquid is being discharged.



2,464,407—Folding Box Setup Machine. David Levkoff, Great Neck, N. Y. Filed Nov. 26, 1945—Issued March 15, 1949.

An automatic folding box set-up machine comprising in combination, a vertically reciprocable platform, means for imparting reciprocation to said platform, a hopper for supporting a plurality of collapsed boxes in stack formation, means for individually feeding boxes from the hopper to the platform when the platform is in its uppermost position, means for initially unfolding a collapsed box upon said platform while the same is in its uppermost position, means for subsequently completing the unfolding of the box during downward movement of the platform, and means for ejecting a completely set up box from the platform while the same is in its lowermost position.

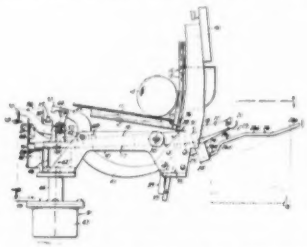


2,464,360—Fire-Resistant Organic Fibrous Materials Containing Ethylene Diamine Di-Hydrobromide. Alexander James Wesson and Henry Charles Olpin, Spondon, near Derby, England, assignors to Celanese Corporation of America, a corporation of Delaware. Filed June 5, 1946—Issued March 15, 1949.

Fibrous materials comprising an organic substance, said materials being of improved fire-resistance owing to a content of ethylene diamine di-hydrobromide.

2,464,545—Bag Filling Machine. Frank Ahlburg, Los Angeles, and Elijah H. Hunt, Huntington Park, Calif.; said Ahlburg assignor to Desda Ahlburg and said Hunt assignor to Mark F. Jones, both of Los Angeles, Calif. Filed Feb. 24, 1947—Issued March 15, 1949.

In a filling and weighing machine for handling articles such as citrus fruit, apples, potatoes and the like, a pivoted weighing beam, means for supporting an article receiving means from one end portion of the beam, means for conveying said articles along a predetermined path, article guide means along one side of said path formed to provide an opening through which the articles may pass to drop into said receiving means, a pair of side-by side gates each movable from an article passing position to an article blocking position within said opening, and means controlled by the movements of said beam for separately and successively actuating said gates to move the same to said article blocking positions as the beam is brought to a position of balance, the time interval between the successive actuations being sufficient to allow at least one article to pass through said opening.



PRODUCT DEVELOPMENT

Textilene Kraftcord and Sunsure

PHILADELPHIA—Textilene Sunsure, a fabric woven from Textiline Kraftcord, which is a twisted and treated paper, has been finding a large market as an automobile seat cover material, E. W. Twitchell, manufacturer of these two products reports. Textilene Kraftcord, itself, also is finding a number of uses in the automobile field as well.

E. W. Twitchell, president of the firm, reports that after 200 hours of exposure in the Fade-ometer, loss of color is hardly perceptible. As automobile seat covers usually receive only a few hours exposure at one time, and that probably through a glass which reduces intensity of radiation, the material thus would show no appreciable fading for the normal wearing life of the covers. Mr. Twitchell added, "There aren't any rough edges to snag women's stockings, and because of that same smoothness, the fabric is easy to slide over regardless of how heavy an overcoat the driver or passenger is wearing." Coolness in summer is another characteristic. The fabric is made in a variety of colors and patterns.

Apropos Textilene Kraftcord, manufacturers in the past used wooden dowels in the armatures of starting motors. The dowels were inserted by hand and had to be exactly the correct size. Then somebody discovered that Kraftcord could be shaped into the dowel form and inserted by high-speed machine.

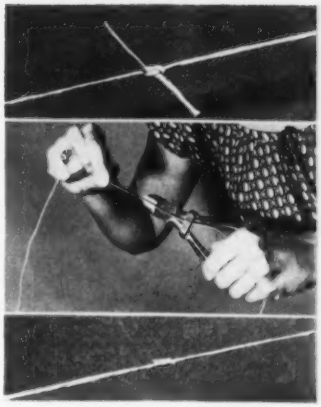
Because Twitchell Kraftcords are easily sized, water proofed and fireproofed, colored, painted, varnished, lacquered, waxed, or otherwise treated, they are popular in the upholstery field as "under cover" materials such as welting cord, spring edges, roll edges, and blind tacking strips, Mr. Twitchell states.

Stronger Scott Towel

CHESTER, Pa. — Scott Paper Co. is introducing a household paper towel "three times stronger when wet" than the firm's finest previous towel for home use. Consumer tests indicate that in addition to being stronger when wet these new ScotTowels, developed by means of the company's Soft-Tuff process, are softer, more comfortable to use and more absorbent, the company states.

Ties "Invisible" Weaver's Knot

PHILADELPHIA—A device that resembles a nutcracker, and that ties virtually invisible weaver's knots in rug yarns, enabling the knotted yarns to pass through rug-making machinery without snapping or breaking, has been perfected by E. W. Twitchell, Inc., maker of kraftcord and other paper products. William S. Bradford, Twitchell's production chief, was responsible for the new development. Mr. Bradford reasoned that if some hand tool, easy to use, could press knots into a smooth, elongated splice that wouldn't foul at the reed or heddle, the problem would be licked. He hit upon a device, in one jaw of which is a groove and in the other a matching wedge. The knot is placed in the groove, the wedge is shut down on it and—no knot!



Ties "invisible" weaver's knot.

The Twitchell Co. uses this tool in its plants at Philadelphia and Maple Shade, N.J., where the firm turns out its tough kraftcord rug-backing yarns, and also has sent many of them to rug manufacturers where valuable shutdown time is being saved by their use. Twitchell now uses the new device.

Nekoosa Manifold Papers

PORT EDWARDS, Wis.—The Nekoosa-Edwards Paper Co. has been added to the Nekoosa family of Pre-Tested Business Papers, a watermarked, light weight thin paper named Nekoosa Manifold. Initial shipments of Nekoosa Manifold are now leaving the Nekoosa-Edwards mills wrapped in the firm's blue and yellow striped wrapper and packed in cartons bearing the Nekoosa label. Nekoosa Manifold is a Substance 9 watermarked No. 1 grade, made in white, blue, green, canary, pink, goldenrod and tuscan. Standard sizes carried in stock at the mill are 17 x 22, 17 x 28, 19 x 24, 22 x 34, 24 x 38 and 28 x 34. The sheets are trimmed, wrapped 500 sheets to the ream and packed in cartons. Cut sizes are also available put up in either 500 or 1000 sheet packages.

High Pressure Plastic Laminate

BEAVER FALLS, N. Y. — The J. P. Lewis Co. plastics division is marketing a new high pressure plastic laminate which is said to possess definite advantages over conventional laminates for certain electrical insulation applications. Called Tensilite 300, it is the result of a manufacturing technique in which a new type of virgin pulp paper is combined with Hycar rubber, phenolic resin, and other compounding ingredients to form a low cost plastic sheet comparative to normal NEMA grades. Laminated in a conventional manner, Tensilite 300 may be fabricated by sawing, shaving, drilling and punching, with the latter done cold or warm (not in excess of 160°F.) depending on the technique and intricacy of the part. Furnished in sheets from 0.031 to 1.0 inch thick, it comes in two colors, dark brown or black, and in two finishes, satin or dull.

Hycar is a special purpose nitrile type rubber manufactured by the B. F. Goodrich Chemical Co., Cleveland. It has been successfully blended with phenolic resins in the manufacture of many products which possess the advantageous characteristics of both the rubber and plastic components. The presence of Hycar rubber in Tensilite 300 improves practically all strength properties and also gives appreciably better moisture resistance and better electrical characteristics as compared to a laminate which does not contain a nitrile rubber ingredient. The punching quality of a Tensilite laminate is increased considerably by the Hycar content. With most conventional laminates, it is often necessary to heat prior to punching; with Tensilite 300, the thinner laminated sheets may be "cold punched." The presence of Hycar makes the sheet very flexible, thus eliminating the problem of a too brittle sheet which may crack or tear during the punching operation. Better retention of the cellulose paper fibre and the resins which are combined in the laminate is also attained through the use of Hycar.

The main differences between Tensilite 300 and conventional high pressure laminates are the comparative lower heat resistance, lower bonding strength and lower cost of the former. The price of Tensilite 300 is roughly half that of a standard high pressure laminated material. Tensilite 300 is much stronger lengthwise (15,000 psi tensile) than crosswise (7,500 psi tensile). Its flexural strength lengthwise is 22,000 psi as against 17,000 psi crosswise. Other physical properties include its ⅛" moisture absorption of 1.5 percent in 24 hours at 25°C., dielectric strength of 600 volts per mil (short time) 400 volts per mil (step by step) a specific gravity of 1.35 and compressive strength of 32,000 psi; its power factor at one million cycles ranges between .045 to .050.

The new laminate has been used in many electrical insulations and mechanical applications where grades XP, XX, etc., are now being used. In many places it may be used as a replacement for fibre with resulting better moisture resistance. Used primarily as an insulation material in those installations where resistance to high temperatures is not necessarily a requisite, it also may be used for such general construction uses as furniture trim and wall paneling.

PRICES . . . . . .

The prices below reflect general market quotations applying to those standard grades in which the normal volume of business is being done.

NEW YORK

Delivered New York

Standard News, per ton—

Rolls, contract	$100.00/	—
Sheets	115.00/	—

F.o.b. Mill, Varying Freight Allowances

Kraft— per cwt., 40# base wgt.

Standard Wrapping Rolls	$6.25/$6.75
No. 1 Wrapping Rolls	7.00/ 7.50
Standard Bag	5.75/ 6.25

Tissues— per ream 24x36 (480) 10 lbs. 2500 lbs. or more

Wh. No. 1 Frd.	$1.57½/	—
Wh. No. 1 M. G.	155.00/	—
Wh. No. 1½	145.00/	—
Wh. No. 2	105.00/	—
Kraft Anti-Tar	1.37½/	—
Shrd. Wh. No. 1 per lb.	.11½/	—

Toilet— per case of 100 rolls—1 M sheets.

Unbleached 4½x4½	$5.75/	—
Bleached 4½x4½	6.95/	—
Bleached 4½x5	8.80/	—
Per Case of 50 rolls—2000 sheets		
Unbleached 4½x4½	$5.75/	—
Bleached 4½x4½	6.80/	—
Per Case of 100 rolls—1000 sheets		
Facial, 4½ x 5, 2 ply	$8.95/$9.45	

Paper Towels—per case of 3750—Zone 1.

Wh. Jr. M'tif'd 9¼x9½	$5.25
Br. Sr. M'tif'd 10x12	3.60
Br. Jr. M'tif'd 9½x9¼	3.10
Br. Jr. Sgl. fold 10x10¾	3.15
Blchd. 7½ x 11, 24/25 rolls	$3.95/$6.25

Manila, per cwt.

No. 1 Jute Tag 40 lb., sheets*	$15.05/$17.50
Reg. Jute M.F. Manila, sheets*	13.50/ 15.50
Wrapping Manila	8.75/ 10.50
Printing Manila	10.00/ 11.00

* Less usual allowance for rolls.

Boards, per ton—

Filled News	$70.00/ —
Plain Chip	70.00/ —
Blchd. Mla. L-d. Chip*	92.50/ —
White Pat. coated*	110.00/
Kraft Liners 42 lb.	100.00/
Kraft Corr. .009	105.00/
Binders Boards	110.00/116.00

* Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

WORLD WOOD PULP MARKETS

Third Quarter Contract Prices, Per Short Air-Dry Ton

	Delivered, with varying freight allowances		On dock Atlantic Ports Full freight allowance		
	U. S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$65.00/ —	$65.00/ —			
Soda, Bleached	113.00/ —	113.00/ —		Competitive	
Sulphate, Bleached	118.00/126.00	126.50/ —	125.00/128.00		
Sulphate, Unbl'd North'n	— / —	82.50/105.00	94.00/ —	with	
Sulphate, Unbl'd South'n	80.00/ —				
Sulphite Blchd. (S'ftw'd)	118.00/ —	118.00/ —	118.00/ —	Domestic	Competitive
Sulphite, Blchd. (H'dw'd)	113.00/ —				
Sulphite, Unbleached	100.00/ —	100.00/ —	100.00/ —	Grades	
Sulphite, Unbl'd (Glassine)	105.00/ —	105.00/ —	104.00/105.00		

WASTE PAPER MARKET

Prices to Mills (Per Ton)

Deld. Local Mills; F.o.b. Cars

	New York Aug. 23	Philadelphia Aug. 16	Boston Aug. 19	Chicago Aug. 3
No. 1 Mixed Paper	$7.00/ $8.00	$5.00/ $6.00	$5.00/ —	$5.00/ —
Boxboard Cuts	7.00/ 8.00	4.00/ 5.00	— / 5.00	8.00/ —
Mill Wrappers	11.00/ 12.00	7.00/ 9.00	— / 9.00	7.00/ —
No. 1 News	9.00/ 10.00	9.00/ 10.00	10.00/ 11.00	11.00/ —
Over-issue News	15.00/ 16.00	12.00/ 14.00	8.00/ 10.50	14.00/ —
Corrugated Containers	17.00/ 20.00	15.00/ 16.00	15.00/ 16.00	15.00/ —
New Corrugated Cuts	18.00/ 20.00	20.00/ 23.00	16.00/ —	19.00/ —
Double Kraft Ld. Corr. Cuts	30.00/ 32.00	30.00/ 35.00	25.00/ —	30.00/ —
Used Kraft Bags	25.00/ 30.00	18.00/ 22.00	25.00/ 30.00	20.00/ —
No. 1 Brown Kraft Paper	25.00/ 30.00	25.00/ 30.00	25.00/ —	15.00/ —
Super Resorted Br. Kraft	25.00/ 30.00	35.00/ —	40.00/ —	30.00/ —
New Br. Kraft Env. Cuts	65.00/ 70.00	60.00/ 65.00	60.00/ 65.00	50.00/ —
New Br. Kraft Cuts	40.00/ 45.00	55.00/ —	45.00/ —	45.00/ —
No. 1 Gdwd. Shvs.	15.00/ 20.00	15.00/ —	25.00/ —	21.00/ —
White Newsblanks	45.00/ 50.00	35.00/ —	— / 50.00	30.00/ —
No. 1 Flyleaf Shvs.	25.00/ 30.00	15.00/ 18.00	35.00/ 45.00	30.00/ —
No. 1 Soft Wht. Shvs.	65.00/ 70.00	60.00/ 65.00	70.00/ 80.00	55.00/ —
Super Soft Wht. Shvs.	80.00/ 85.00	65.00/ 70.00	80.00/ 90.00	60.00/ —
Hd. Wht. Shvs.	85.00/ 95.00	75.00/ 80.00	80.00/ 90.00	80.00/ —
Hd. Wht. Env. Cuts.	100.00/105.00	90.00/ 95.00	90.00/105.00	90.00/ —
New Manila Env. Cuts.	65.00/ 75.00	60.00/ —	60.00/ 70.00	55.00/ —
Col. Tab Cards	30.00/ 35.00	20.00/ 25.00	35.00/ —	30.00/ —
Manila Tab Cards	65.00/ 75.00	60.00/ 65.00	65.00/ 75.00	50.00/ —
No. 1 Mixed Ledger	30.00/ 35.00	25.00/ 30.00	37.50/ —	30.00/ —
White Ledger	45.00/ 55.00	35.00/ 45.00	45.00/ 50.00	40.00/ —
Mixed Books & Mags.	7.00/ 8.00	4.00/ 5.00	12.00/ —	7.00/ —
No. 1 Rep'd Hvy. Books & Mags.	20.00/ 25.00	8.00/ 10.00	22.00/ 23.00	20.00/ —

The following prices are representative of distributors' resale prices, all deliveries in Zone 1:

Rag Content Bonds and Ledgers—

White, 20 lb.

Bonds

	4 Ctns. per cwt.
100% Rag Ex. No. 1	$51.40/$53.90
100% Rag	44.55/ 46.15
75% Rag	33.90/ 35.40
50% Rag	28.10/ 29.55
25% Rag	24.85/ 26.80

Ledgers

	4 Ctns. per cwt.
100% Rag Ex. No. 1	$52.65/$54.55
100% Rag	45.65/ 46.40
75% Rag	35.15/ 36.10
50% Rag	29.40/ 30.05
25% Rag	26.15/ 26.80

Sulphite Bonds and Ledgers

White, 20 lb.

Bonds

	4 Ctns. per cwt.
No. 1	$17.50/ —
No. 2	16.65/ 16.75
No. 4	15.60/ 15.95

Ledgers

	4 Ctns. per cwt.
No. 1	$18.80/ —
No. 2	18.05/ —

White Book

Conversion Coated	Case per cwt.
No. 1	$19.75/$20.90
No. 2	19.25/ 19.65
No. 3	17.75/ 18.90
Machine Coated	
No. 1	16.40/ 16.65
No. 2	14.90/ 15.15
Uncoated	
No. 1 Antique (Watermarked)	16.40/ 17.90
Offset	15.15/ 16.65
A Grade E. F.	15.40/ —
A Grade S. C.	15.90/ 16.15
B Grade E. F.	14.90/ 15.15
B Grade S. C.	15.40/ 15.65

Twines

All Prices Nominal, F.o.b. Mill

(Soft Fiber)		
Coarse Polished—India	.35½/	.36½
Fine Polished India	.41½/	.45
Unpolished—Paper Makers	.32¼/	.34½
Tube Rope	.33¼/	.35½
Wrapping	.36 /	.38¼
Cotton	.58 /	.60
Polished Cotton	.55 /	—
(Hard Fiber)		
Mex. Sisal	.21 /	.27
(American Hemp)		
Polished Hemp	.45 /	.48
Unpolished	.35 /	.37½

Rag Market

New Domestic Cotton Cuttings

(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.
White Shirt	$10.00/ $10.50
Unbleached Muslin	10.00/ 10.50
Light Silesias	7.00/ 7.50
White Back Blue Overalls	6.25/ 6.50
Blue Overalls	6.00/ 6.25
Fancy Shirt	4.50/ 5.00
Percales	5.50/ 6.00
Light Prints	5.50/ 6.00
No. 1 Washables	2.75/ 3.00
Bleachable Khaki	5.00/ 5.50
Unbleachable Khaki	4.50/ 5.00
Cottonades	4.25/ 4.75
Lt. Flannelettes	7.00/ 7.50
Men's Corduroy	3.50/ 4.00
Women's Corduroy	3.00/ 3.50

Old Domestic Cotton Rags

(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.
No. 1 Whites, Repacked	$4.25/ $4.75
No. 1 Whites, Miscellaneous	3.50/ 4.00
No. 2 Whites, Repacked	2.75/ 3.00

No. 2 Whites, Miscellaneous	2.00/ 2.25
Cotton Pants & Overalls	2.50/ 2.75
Thirds and Blues, Repacked	2.00/ 2.25
No. 1 Roofing Rags	1.25/ 1.35
No. 2 Roofing Rags	1.00/ 1.20
No. 3 Jute Bagging	**.93/ 1.05**
No. 4 Brussels & hrd. Bck'd crpts.	**.90/ 1.00**
Roofing Bagging	**.80/ .95**

New Foreign Cotton Cuttings

(Prices to Dealer, F.o.b. Dock, N. Y.)

	Per 100 lbs.
New Dark Cuttings	prices
New Mixed Cuttings	
Light Silesias	
Light Flannelettes	
New White Cuttings	are
New Unbleached Cuttings	
Fancy Shirt Cuttings	nominal
Light Prints	
Bleachable Khaki, No. 1	
Unbl. Khaki, No. 1	

Old Foreign Rags

(Prices to Dealer, F.o.b. Dock, N. Y.)

	Per 100 lbs.
No. 1 White Cottons	prices
No. 2 White Cottons	
No. 3 White Cottons	
No. 4 White Cottons	
Extra Light Prints	
Old Light Prints	are
Med. Light Prints	
Dutch Blue Cottons	
Checks and Blues	
Linsey Garments	nominal
Dark Cottons, European	
Dark Cottons, Egyptian	
Old Shopperies	
New Shopperies	

Bagging

(Prices to Dealers, f.o.b. N. Y.)

	Per 100 lbs.
Foreign Gunny, No. 1	**$7.50/ $8.00**
Domestic Gunny, No. 1	7.50/ 8.00
Heavy Wool Tares	6.50/ 7.00
No. 1 Scrap Bagging	**4.75/ 5.00**
Foreign Manila Rope	**5.50/ 5.75**
Domestic Manila Rope	**5.50/ 5.75**
Jute Strings	**6.25/ 6.50**
No. 1 Sisal Strings	5.00/ 5.25
Mixed Strings	**1.15/ 1.30**

PHILADELPHIA

Domestic Rags (new)

(F.o.b. Eastern Shipping Point)

	Per 100 lbs.
White Shirt	**$10.25/$10.50**
Fancy Shirts	5.00/ 5.25
Light Silesias	**6.75/ 7.00**
Unbleached Muslin	**10.00/ 10.25**
Light Prints	**5.25/ 5.50**
Washable No. 1	3.75/ 3.25
Blue Overall	**6.00/ 6.25**
Percales	**5.50/ 5.75**
Unbleachable Khaki	3.50/ 4.00
Bleachable Khaki	4.50/ 5.00
Men's Corduroy	3.75/ 4.25
Ladies' Corduroy	3.25/ 3.75
Cottonades	3.75/ 4.00

Domestic Rags (old)

(F.o.b. Eastern Shipping Point)

	Per 100 lbs.
Mixed White	$3.00/ $3.50
Thirds and Blues Repacked	2.25/ 2.50
Cotton Pants & Overalls	2.25/ 2.50
No. 1 Roofing Stock	1.00/ 1.10
No. 2 Roofing Stock	.90/ 1.00
Roofing Bagging	.80/ .90

Bagging

(F.o.b. Eastern Shipping Point)

	Per 100 lbs.
Old Manila Rope	$5.00/ —
Foreign Gunny No. 1	7.50/ 8.00
Domestic Gunny No. 1	7.50/ 8.00
Sisal Strings No. 1	3.00/ 3.50
No. 1 Scrap	4.00/ 4.50
No. 1 Jute Rope	5.50/ 6.00

BOSTON

Bagging

(F.o.b. Boston)

	Per 100 lbs.
Foreign Gunny	$6.50 /$7.00
Domestic Gunny	6.50 / 7.00
Domestic No. 1 Old Rope	6.00 / 6.25
Foreign No. 1 Old Rope	**6.50 / —**
Mixed Strings	1.35 / —
Transmission Rope—Domestic	**3.00 / 3.50**
Jute Carpet Threads	**— / 4.00**
Bleachery Burlap	**— / 9.00**
Scrap Burlap—	
Foreign	5.75 / 6.00
Domestic	5.75 / 6.25
South America	6.00 / 6.50
Austr. Wool Pouches	**8.25 / 8.75**
New Zealand Wool Pouches	**— / 6.00**
New Burlap Cuttings	**7.50 / 8.00**
Heavy Baling Bagging	**7.50 / 8.00**
Paper Mill Bagging	**— / 5.00**

Domestic Rags (new)

(F.o.b. Boston)

	Per 100 lbs.
New Light Prints	**5.75 / 6.00**
Fancy Percales	6.25 / 6.50
White No. 1 Shirt	10.00 /10.75
Light Flannelettes	**— / 7.00**
Canton Flannels, Bleached	**— / 9.00**
Underwear Cutters, Bleached	10.75 /11.25
Underwear Cutters, Unbleached	10.00 /10.25
Blue Overalls	6.00 / 6.50
Soft Unbleached	9.75 /10.50
Blue Cheviots	6.00 / 6.50
Fancy Shirt	4.00 / 4.50
Washable	3.00 / 3.25
Khaki Cuttings	5.00 / 5.25
Men's Corduroy	4.50 / 5.00
Khaki Canvas	— / 5.50
B. V. D. Cuttings	10.00 /10.25

Domestic Rags (old)

(F.o.b. Boston)

	Per 100 lbs.
No. 1 Whites, Repacked	3.00 / 3.50
No. 1 Whites, Miscellaneous	2.50 / 3.00
Twos and Blues, Repacked	— / 2.00
Cotton Pants & Overalls	2.50 / 2.75
No. 1 Roofing Stock	.95 / 1.10
No. 2 Roofing Stock	.85 / 1.00
Roofing Bagging	.75 / .80

MATERIALS

Blanc Fixe

Prices firm. Demand moderate. Supply adequate. Currently quoted at $85.00 in bags, car lots, at works, 6 cents per pound, l.c.l., deld. By-product supply somewhat restricted. Quoted at $77.50 per ton, car lots, at works, 6 cents per pound, l.c.l., deld.

Bleaching Powder

Demand improved. Prices steady. Prices range from $4.25 to $4.75 per 100 pound drums, l.c.l., works.

Casein

Currency devaluation cuts Argentine price. Undertone of market weak as dull trading and heavy stocks face new season. U. S. production low. Current prices on processed acid precipitated grades 20½ to 21 cents, premium grades 21½ to 22 cents; imported grades 18/19 cents, f.o.b. shipping point, car lots.

Caustic Soda

Sharper paper demand reported. Stocks ample for prompt shipment. Prices firm. L.c.l. sales reported at competitive levels. Solid caustic is reported at $3.05 per cwt. flaked and ground is quoted at $3.45 per cwt., in 400 pound drums, $3.95 per cwt. in 100 pound drums—car lots at works; liquid 50 percent in tank cars at $2.40 per cwt.; liquid 73 percent in tank cars at $2.50 per cwt., at works.

China Clay

Prices firm. Demand strong. Supply of domestic and imported ample. **Domestic filler quoted at $10 to $12.50 per ton, car lots, f.o.b. mines. Coating clay is $15 to $25. Imported clay quotation, short tons, $16 to $35, export warehouse.**

Chlorine

Demand strong. Supply condition tightened by seasonal water requirements. Prices firm. Currently quoted at $2.40 per cwt. in single unit tank cars; at $2.70 to $3.90 per cwt. in multi-tank cars, f.o.b., works.

Rosin

Market tone brighter as demand shows strength. Prices firm. Gum rosin in drums per 100 pounds net in car lots, f.o.b. Savannah, B, $5.75; G, $6.42; H, I, K, $6.44; wood rosin, per 100 lbs., car lots f.o.b. Savannah; B, $4.25; FF, $5.50.

Rosin Size

Supply good. Demand steady. Seventy percent gum and pale wood grades, tank cars, $5.45 to $5.55 f.o.b. southern shipping point.

Salt Cake

Demand fair. Domestic quoted at $22.00/$24.00, f.o.b. shipping point, freight allowed to destination.

Soda Ash

Pickup in demand noted. Supply easy. Prices firm. Current prices, car lots per 100 pounds; in bulk, $1.15; in paper bags, $1.40; and in barrels, $1.90.

Starch, Corn

Prices steady at levels of Aug. 15 until Sept 1. Demand moderate. Supply ample. Pearl grade currently quoted at $4.82 per 100 pounds; powdered starch at $4.93 per 100 pounds; car lots, f.o.b. Chicago.

Starch, Potato

Strong paper demand. Supply tight. Market firm. Prices stronger. Idaho quantities limited to warehouse. High grade quoted at $7.00 cwt., l.c.l., ex N. Y. whse. Maine supply quoted $4.75/$4.88, f.o.b. Maine warehouse.

Sulphate of Alumina

Prices firm Supply good. Demand steady. The commercial grades are quoted from $1.50 per 100 pounds, in bags, car lots, f.o.b. works. Iron free is $2.50 per 100 pounds in bags, car lots, at works.

Sulphur

Supply ample. Demand sustained at good level. Prices firm. Annual contracts are quoted at $18 per long ton, f.o.b. mines; $19.50, f.o.b. vessels, Gulf ports. Export price f.o.b. Gulf ports is $22.00 per long ton.

Talc

Prices steady. Demand continues ahead of supply. Domestic grades are currently quoted at $23 per ton in paper sacks, f.o.b. mills; Canadian at $35 and up per ton. All prices in car lots.

Tapioca Flour

Supply good. Moderate demand. Superior high range from $9.50/$10.00 cwt.; high grades $8.60/ $9.50 cwt., on dock Atlantic and Gulf ports; medium grades range from $7.25/$8.00 cwt. on dock, N. Y.

Titanium Dioxide

Prices firm. Supply reported now in balance with eased demand. Anastase 19½c pound carload lots, 20c l.c.l., rutile, 21½c pound carload lots, 22½c l.c.l.; 50-pound bags, f.o.b. plant, actual freight allowed.

IMPORTS — EXPORTS

Seeking U. S. Lines for Indian Market

NEW YORK — The Amrut Trading Co., import agent and supervisor of export cargoes from Bombay, P. O. Box 3518, Girgaum, Bombay 4, India, reports to *Paper Trade Journal* that it is now operating as an indent agent for newsprint, kraft and cigarette papers, boxboard and strawboard, newsprint and litho inks, etc., an an extensive diversity of other products. It asks that interested American manufacturers send samples and specifications of products suitable for export to Bombay, "together with lowest c.i.f. Bombay prices, stating rate of commission included for us." Cable address of the firm is "Subhindent," Bombay.

IMPORTS AT NEW YORK

Week Ending August 27

Newsprint

News Syndicate Co., Inc., Colabee, Baie Comeau, 7100 rolls.
R. A. Olsen, Inc., G.T.D., Donnacona, 339 rolls.
H. C. Craig Co., A.C.D., Donnacona, 336 rolls.
R. A. Olsen, Inc., G.D.D., Donnacona, 358 rolls.

Wallpaper

Meadows Wye & Co., Queen Elizabeth, Southampton, 1 cs.
Hudson Shipping Co., American Reporter, Havre, 1 cs.
The Isco Wallpaper Corp., American Forwarder, Liverpool, 56 ctns.

Surface Coated Paper

Gevaert Co. of America, Naviero, Antwerp, 40 cs.
Gevaert Co. of America, Averdyk, Antwerp, 11 cs.

Matrix Stereotype Paper

Acme Stencil Co., American Reporter, Bremen, 10 cs.

United States Imports and Exports

Pulpwood, Wood Pulp, Paper, Paperboard and Paper Products

Preliminary Figures

May 1949, June 1948 and 1949, and First Six Months of 1948 and 1949

(Because of revised export classifications of most items, effective January 1, 1949, data for 1948 are given only where comparable)

(In Short Tons, Except Where Otherwise Noted)

Imports

Item	May 1949	June 1948	June 1949	First 6 months 1948	First 6 months 1949
Pulpwood; total (in cords of 128 cu. ft.)	100,742	245,884	158,425	926,270	740,743
Rough	45,301	180,579	79,338	381,659	246,832
Peeled	46,992	107,652	67,581	500,010	439,958
Dressed		1,653	500	8,601	3,953
Wood pulp, total	8,449	7,525	11,452	44,110	53,846
Mechanical	143,365	215,200	129,611	1,192,464	766,047
Bleached, sulphite, rayon and special chemical grades	11,733	23,417	12,735	122,038	84,696
Bleached sulphite, other	25,795	29,073	20,951	161,635	124,411
Unbleached sulphite	34,941	60,443	27,020	386,193	161,807
Bleached Sulphate	13,287	22,135	14,305	169,155	98,252
Unbleached Sulphate	16,844	30,322	14,305	209,411	99,282
Soda pulp	2,100	2,542	1,695	12,268	12,558
Chemical screenings	296	917	236	5,573	1,878
Unbleached groundwood	21,939	33,183	15,629	159,027	94,827
Groundwood screenings	445	456	401	2,217	2,316
Bleached fibrous materials, total					
Rags for paper stock	5,272	9,842	4,902	52,145	35,485
Other pulp, rag, straw, esparto, etc.	565	1,503	572	12,843	4,726
Other waste fibrous materials	(1)		(1)		(1)
Paperboard and paper	4,767	8,137	4,530	39,302	30,759
Paperboard, total	424,955	390,598	405,929	2,203,048	2,855,821
Paper and paperboard, total	423,689	390,072	405,628	2,199,836	2,853,151
Paper, total	417,140	383,656	399,574	2,160,593	2,818,116
Newsprint	414,469	373,193	397,241	2,100,407	2,796,793
Printing, and book paper, total	1,823	6,909	1,166	39,793	17,337
Fine papers, total	44	51	22	350	278
Writing paper	3	9	3	65	16
Cover paper		(1)		1	(1)
Bristols	(1)	3		4	37
Thin paper	36	36	8	258	182
Other fine paper and miscellaneous	5	3	6	22	43
Wrapping paper, total	616	1,883	562	12,570	2,699
Greaseproof	(1)		2	17	11
Veg. parchment	(1)	1		12	6
Kraft wrapping	552	561	462	6,236	2,211
Wrapping, except Kraft	64	821	96	6,305	471
Tissue and crepe paper	141	55	67	1,195	773
Absorbent paper	25	8	4	45	55
Building paper	22	55	12	233	181
Paperboard total	6,549	6,416	6,054	39,243	35,035
Kraft container board			3	611	
Other container and box board	4,781	3,258	4,751	25	5
Other paperboard		1		22,165	24,045
Fiber insulation board	1,768	3,155	1,237	2 16,440	2 10,911
Wallboard	366	526	351	3,212	2,670
Paper products					

Exports

Item	May 1949	June 1948	June 1949	First 6 months 1948	First 6 months 1949
Other fine thin paper*	40	(3)	51	(3)	279
Other fine paper*	86	(3)	66	(3)	498
Coarse paper:					
Wrapping paper:	1,945		1,950		9,017
Kraft*					
Glassine, greaseproof, and vegetable parchment*	233		290		1,430
Other wrapping paper	321		348		2,937
Bag paper:					
Kraft*	68		109		944
Glassine, greaseproof, and vegetable parchment*					
Other bag paper*	29		26		209
Shipping sack paper*	24		2		36
Converting paper:	80				1,099
Kraft*	248		134		565
Glassine, greaseproof, and vegetable parchment*	8		8		38
Other converting paper*	25				
Special industrial paper*	597		623		68
Sanitary tissue paper stock	735		733		2,756
Tissue and other thin paper					2,943
Absorbent paper, including blotting and filter	92		65		1,369
Building paper, including sheathing and asbestos	180		284		1,431
Paperboard, except wet machine board, total	717		679		4,309
Container boards*					
Cardboards, coated and uncoated*	11,849		10,642		51,393
Container board:					
Liners:					
Kraft*	6,866		7,675		32,167
Other*	1		4		22
Corrugating materials*	1,317		504		3,159
Building boards*	934		898		3,579
Sanitary boards*	627		429		2,787
Cardboard, coated and uncoated*	765		646		3,720
Other paperboards*	1,299		486		4,339
Wet machine board*	111		267		1,110
Building board, total	909		974		12,463
Wallboard, except laminated	87		187		3,023
Insulating wallboard, except laminated	822		787		9,440
Flexible wood and vegetable fiber insulation*	69		212		453
Converted paper and paper products, total	6,659		6,362		41,812
Paper products, all types and materials	54		79		402
Office supplies*	171		207		1,416
Stationery*	30		17		219
Tablets and related-type products*	161		199		998

Serviettes

A. C. O. Leather Goods Co., American Reporter, Hamburg, 53 bls.

Parchment Paper

Dingelstedt & Co., American Flyer, Bremen, 27 crates, 2 cs.

(———), Algonquin Victory, Hamburg, 1 cs.

Parchment

Andrews Paper Co., Queen Mary, Southampton, 1 cs.

Tissue Paper

B. F. Drakenfeld & Co., American Forwarder, Liverpool, 38 cs.

Photo Paper

Lep Transport, Inc., Queen Mary, Southampton, 1 cs. (base), 1 cs. (base board).

Rags, Baggings, Etc.

E. J. Keller Co., Inc., Elysia, Glasgow, 91 bls. bagging.

(———), Elysia, Glasgow, 75 bls. bagging.

1st National Bank of Boston, Executor, Venice, 54 bls. old jute bagging.

Manufacturers Trust Co., Executor, Genoa, 57 bls. old bagging.

Louis Gottlieb, Vibeke Maersk, Antwerp, 229 bls. old jute bagging.

Darmstadt Scott & Courtney, Vibeke Maersk, Rotterdam, 58 bls. old jute bagging.

A. de Vries Trading Corp., Ronda, Rouen, 52 bls. scrap bagging.

Brandwein Mazur Co., Excelsior, Bombay, 100 bls. cotton waste.

(———), Excelsior, Bombay, 142 bls. rag waste.

W. Barnet & Son, American Forwarder, Liverpool, 11 bls. wool rags, 4 bls. woolen waste.

New England Waste Co., City of Khartum, Calcutta, 400 bls. cotton waste.

Loumar Textile By Products Co., Algonquin Victory, Antwerp, 63 bls. old bagging.

(———), Algonquin Victory, Antwerp, 280 bls. flaxwaste.

Guaranty Trust Co., Algonquin Victory, Antwerp, 168 bls. old rags.

R. & V. Miller, American Scout, Liverpool, 3 bls. old woolen rags.

Irving Trust Co., Havmann, Antwerp, 115 bls. jute rags.

Chase National Bank, Havmann, Antwerp, 360 bls. scrap bagging.

New England Waste Co., Havmann, Rotterdam, 115 bls. old bagging.

New England Waste Co., Havmann, Rotterdam, 63 bls. cotton waste.

Old Rope, Etc.

National City Bank, Havmann, Rotterdam, 110 coils old rope.

(———), City of Khartum, Calcutta, 63 bls. old hemp rope cuttings.

(———), City of Khartum, Aden, 65 bls. old hemp rope cuttings.

Casein

F. H. Paul & Stein Bros., La Baule, Havre, 324 bags.

Crawford Co., Argentina, Buenos Aires, 2000 bags.

Exports

Pulpwood (in cords of 128 cu. ft.)	.....	.....	.....	5,334	7,250		
Wood pulp, total	17,750	10,109	22,487	55,692	92,079		
Sulphite bleached:							
Rayon and special-chem. cal grades	1,993	2,567	1,003	7,804	17,338		
Other bleached sulphite	2,137	1,846	529	12,695	14,841		
Sulphite, unbleached	2,038	3,293	4,270	29,978	24,030		
Sulphate, semibleached*	334		2,544		7,132		
Sulphate, unbleached	11,228	252	11,742	626	27,113		
Soda pulp	.....	2,299	.....	3,323	.....		
Groundwood pulp*	.....	.....	.....	534	.....		
Screenings and other wood pulp*	.....	1,333	.....	.....	1,340		
Pulp waste paper, pulp and cotton pulp*	.....	52	116	732	295		
Other fibrous materials, total	6,070	14,026	9,613	82,603	79,600		
Rags for paper stock:							
Valued at $100 or over per ton*	382	874	308	6,616	1,572		
Valued under $100 per ton	359		474		2,626		
Waste paper:							
Overissue and old news. papers*	2,798	12,841	5,878	75,203	49,379		
Other waste paper	2,531		2,735		25,398		
Other paper stock	.....	611	220	2,784	625		
Paper, boards, and paper products, total	37,858	34,510	34,596	201,247	302,670		
Newsprint, standard	31,099		31,334		160,858		
Paper, total	18,261	(1)	16,139	(1)	95,439		
Newsprint, standard and super-standard	4,125	2,645	2,868	13,614	17,960		
Groundwood paper, printing and con trol*	.....	403	(1)	398	(1)	1,813	
Uncoated*	.....	414	(1)	171	(1)	1,565	
Book paper, printing and converting:							
Uncoated*	5,947	(1)	2,896	(1)	18,073		
Coated*	457	(1)	466	(1)	2,598		
Fine paper, including writing, printing other than ground-wood or book*	2,704	(1)	3,281	(1)	17,751		
Bristols, except tag	75	(1)	104	(1)	560		
Index and bogus	.....	.....	.....	.....	.....		
Thin paper	.....	.....	.....	.....	.....		
Cigarette paper	215	(1)	387	(1)	5,283		
Wrapping paper products:							
Metal foil, paper-backed*	.....	.....	.....	.....	.....	37	46	250
Oilell, waxed and waxed laminated*	.....	.....	.....	.....	.....	108	198	1,063
Laminated, waterproof paper, except wax	.....	.....	.....	.....	.....	30	56	179
Wrapping paper prod ucts, n.e.s.*	.....	.....	.....	.....	.....	164	150	2,393
Containers, except sanitary food	.....	.....	.....	.....	.....			
Bags, grocery, variety and specialty, all types	.....	.....	.....	.....	.....	698	1,058	6,073
Shipping sacks	.....	.....	.....	.....	.....	439	444	2,901
Shipping containers	.....	.....	.....	.....	.....			
corrugated and solid fiber	.....	.....	.....	.....	.....	1,959	1,370	5,613
Boxboard, cut to size	.....	.....	.....	.....	.....	572	457	3,014
Other containers, except sanitary food*	.....	.....	.....	.....	.....	361	362	1,551
Sanitary food containers	.....	.....	.....	.....	.....		255	1,546
Packaging accessories*	.....	.....	.....	.....	.....	157	224	1,026
Sanitary and health prod. n.e.s.*	.....	.....	.....	.....	.....			
Facial tissue and hand-kerchiefs	.....	.....	.....	.....	.....	426	122	973
Table napkins, industrial and household*	.....	.....	.....	.....	.....		34	253
Toilet paper	.....	.....	.....	.....	.....	57	663	4,333
Paper towels, industrial and household*	.....	.....	.....	.....	.....	652		
Sanitary napkins and health products, n.e.s.*	.....	.....	.....	.....	.....	86	145	675
Food serving products*	.....	.....	.....	.....	.....			
Industrial paper	.....	.....	.....	.....	.....	11	4	58
board products*	.....	.....	.....	.....	.....	38	65	387
Wallpaper, printed	.....	.....	.....	.....	.....			
Paper, paperboard, and paper products, n.e.s.	.....	.....	.....	.....	.....	820	243	4,338
						7	43	117
						311	291	2,134

* Classification established January 1, 1949.
(1) Less than one-half short ton.
Note: Total for board comprises paperboard (except wet machine board and building board), wet machine board, building board, and flexible wood and vegetable fiber insulation board.
— Data not comparable.

Source: Prepared by the Forest Products Branch, Office of International Trade. Data from the Bureau of the Census, U. S. Department of Commerce. Figures are preliminary, subject to revision.

The Borden Co. Chemical Division, Argentina, Buenos Aires, 3040 bags (ground lactic).

IMPORTS AT BOSTON

Week Ending August 27

Rockland Atlas National Bank of Boston, Leerdam, Rotterdam, 4 bls. rags.

S. A. Miller, Leerdam, Rotterdam, 6 bls. woolen rags.

Gottesman & Co., S. S. Belos, 500 bls. bleached kraft.

IMPORTS AT PHILADELPHIA

Week Ending August 27

J. H. Weil, American Forwarder, Manchester, 5 cs. tracing paper.

Bayersdorfer Co., Pioneer Lake, Hong Kong, 40 cs. rice paper.

National Casein Sales Co., Mormactide, Buenos Aires, 1016 bags lactic casein.

IMPORTS AT NORFOLK

Week Ending August 27

1st National Bank of Boston, Executor, Venice, 105 bls. old jute bagging.

A. de Vries Trading Corp., Executor, Genoa, 190 bls. scrap bagging.

E. J. Keller Co., Inc., Executor, Genoa, 301 bls. old jute rags.

H. Adlerstein, Executor, Genoa, 72 bls. old jute packing.

E. J. Keller Co., Inc., Averdyk, Antwerp, 45 bls. old bagging.

Loumar Textile By Products Co., American Forwarder, Manchester, 43 bls. old bagging.

E. Butterworth & Co., American Forwarder, Manchester, 80 bls. old bagging.

Loumar Textile By Products Co., Algonquin Victory, Antwerp, 254 bls. jute millwaste.

F. P. Gaskell & Co., American Scout, Glasgow, 75 cs. coated paper (for cigarette tips).

Loumar Textile By Products Co., American Scout, Manchester, 45 bls. old bagging.

Darmstadt Scott & Courtney, Havmann, Rotterdam, 85 bls. old bagging.

A. de Vries Trading Corp., Leerdam, Rotterdam, 231 bls. scrap bagging.

U. S. IMPORTS WOODPULP

Preliminary, July, 1949

Item	Country of Origin	Short Tons
Mechanical		
Unbldchd.	Canada	9,899
	Sweden	885
		10,784
Screenings	Canada	312
Bleached		
Chemical		
Sulfite, Unbldchd.	Canada	15,290
	Sweden	6,199
	Finland	1,946
		23,435
Screenings	Canada	92
	Sweden	32
		124
Sulfite, Bldchd. Rayon and Special Chem. Grades	Canada	8,205
Other	Canada	15,115
	Sweden	4,134
	Norway	3,077
	Finland	4,496
		26,822
Sulfate, Unbldchd.	Canada	7,099
	Sweden	4,356
	Norway	4,539
		15,994
Sulfate, Bleached	Canada	19,160
	Sweden	7,234
		26,394
Soda, Unbldchd. and Bldchd.	Canada	1,907
Totals, July	Canada	77,079
	Sweden	22,840
	Norway	7,616
	Finland	6,442
		113,977

Dollar Shortage Curtails Market

OTTAWA.—Although there is no doubt that the reduction in imports by various British Commonwealth countries and colonies on account of the dollar shortage may prove sharp curtailment of markets for the pulp and paper industry of Canada, yet it is now emphasized that these sterling-area import cuts are tentative and provisional measures only, as far as it can be foreseen at the moment. The aim of these so-called "austerity" measures is to reduce the current drain on the supply of dollars in order to improve the sterling-area position, though no official is willing to commit himself how long these measures may continue, nor even if these measures will ever be dropped. Still it is stressed these measures are "tentative and provisional."

Trizone Paper and Products for U. S.

NEW YORK—The German Trizone will probably have goods available for export to the U. S., during the next 12 months, the United States-German Chamber of Commerce discloses. Included in the estimate are the following dollar amount of paper and paper products:

Blotting paper, 30,000; tissue paper,

WORLD DISTRIBUTION OF NEWSPRINT PAPER—1948

(Thousand Short Tons)

| PRODUCTION | | EXPORTED TO | | |

FINANCIAL RECORD •

	Per Share Earnings		Indic.	Aug. 30
	Calendar Year 1948	12 Mo. to Approx. 6/30/49	Annual Divid. Rate	Approx. Market Price
PREFERRED STOCKS				
Armstrong Cork Co. $3.75 Cum.	$46.33*	n.a.	$3.75	99¼
Armstrong Cork Co. $4.00 Cum. Conv.	46.33*	n.a.	4.00	109
Celotex Corp. 5% Cum.	26.42c	$15.31i	1.00	16⅞
Champion Paper & Fibre $4.50 Cum.	**61.80j**	**99.97f**	**4.50**	97⅛
Container Corp. of Amer. 4% Cum.	105.41	99.87	4.00	99⅜
Crown Zellerbach $4.20 Cum.	59.10c	61.84i	4.20	100¾
Crown Zellerbach $4.00 Cum. Conv. 2nd	55.88c*	58.59i*	4.00	94
Dixie Cup Co. $2.50 Cum. Conv. Cl. A	10.10	10.04	2.50	50⅛
Flintkote Co. $4 Cum.	83.25	66.07	4.00	102½
Robert Gair Co., Inc. 6% Cum.	17.08	13.73	1.20	16⅞
International Paper Co. $4 Cum.	263.00	265.18a	4.00	101¼
Johns-Manville $3.50 Cum.	209.89	212.03	3.50	108⅜
Kimberly Clark Corp. 4½% Cum.	80.74	74.36	4.50	102
Kimberly Clark Corp. 4% Cum. Conv. 2nd	41.59*	44.25*	4.00	101
MacAndrews & Forbes 6% Cum.	62.23	58.66	6.00	134½
Mead Corp. 4¼% Cum.	73.46	68.78k	4.25	89
Mead Corp. 4% Cum. Conv. 2nd	29.91*	24.30k	2.00	52½
Paraffine Cos. Inc. 4% Cum. Conv.	156.11	158.51a	4.00	103
Rayonier Inc. $2 Cum.	16.43	13.99	2.00	31⅝
St. Regis Paper Co. 4.40% 1st A	79.90	51.11	4.40	81¾
Scott Paper Co. $3.40 Cum.	59.06	55.14*	3.40	95½
U. S. Gypsum Co. 7% Cum.	314.45	296.82	7.00	183¾
United Wallpaper Inc. 4% Cum. Conv.	(d)0.79	15.44a	2.00	24½
West Virginia Pulp & Paper 4½% Cum.	79.45c	69.93p	4.50	106⅜
COMMON STOCKS				
APW Products Co.	$0.73	(d)$0.56	(m)	2⅞
American Writing Paper Corp.	(d)0.15	(d)0.16	$0.25	5⅞
Armstrong Cork Co.	**7.54**	**n.a.**	**3.00**	**47**
Celotex Corp.	**7.21c**	**4.06i**	**1.00**	15⅞
Certain-Teed Prods. Corp.	4.02	3.21	1.00	12
Champion Paper & Fibre	5.34j	8.70f	2.00	23⅜
Congoleum Nairn Co.	5.78	4.92	2.25	26
Container Corp. of America	10.12	9.52	4.50	35½
Crown Zellerbach	6.70e	6.85i	2.00	25⅛
Dixie Cup Co.	6.70	6.65	1.00	28¼
Eastern Corp.	4.76	1.27	(h)	8⅜
Flintkote Co.	5.86	4.40	2.50	25¼
Robert Gair Co., Inc.	2.67	2.10	0.70	5⅞
Great Northern Paper Co.	4.63	5.32	2.80	38⅜
International Paper Co.	16.73	16.87a	5.00	53¼
Johns-Manville Corp.	5.22	5.27	2.00	39⅜
Kimberly Clark Corp.	5.02	4.55	1.65	21¾
MacAndrews & Forbes Co.	3.68	3.56	2.50	33⅜
Marathon Corp.	**4.11c**	**3.76i**	**1.40**	20⅛
Mead Corp.	6.36	5.84k	1.00	13⅝
National Container Corp.	2.28	1.80a	0.40	6¼
Paraffine Cos. Inc.	2.45	2.49a	1.20	18¼
Rayonier, Inc.	9.09	7.55	2.00	24⅛
Ruberoid Co.	11.80	9.48	3.25	49
St. Regis Paper Co.	2.71	1.64	0.60	6⅝
Scott Paper Co.	4.15	5.02	2.50	60½
Sutherland Paper Co.	6.02	4.92	2.50	33
Union Bag & Paper Corp.	9.17	6.50	3.50	23¼
United Board & Carton	2.04b	(d)0.35i	(e)	5⅞
U. S. Gypsum Co.	15.04	14.18	6.00	94½
United Wallpaper	(d)0.10	0.42a	(n)	3¼
West Virginia Pulp & Paper	11.33c	9.70p	4.00	39⅝

(a) 12 months to approximately 3/31/49
(b) Year ended 11/23/48
(c) Year ended 10/31/48
(d) Deficit
(e) Omitted dividend 2/4/49
(f) 11 months to 3/31/49
(g) 12 months to approximately 1/31/49
(h) Directors took no action on 8/2/49 dividend—last payment 5/2/49
(i) 12 months to approximately 4/30/49
(j) 8 months to 12/31/48
(k) 12 months to approximately 6/12/49
(m) Directors took no action on July, 1949, dividend—last payment 1/10/49
(n) Last payment 25c, 9/16/47
n.a. Not available
(p) 12 months to approximately 7/31/49

(*) Earnings per combined preferred shares.

ered likely that the situation could be changed for the remainder of 1949. However, he said, American interests would be safeguarded in any authorizations looking to 1950. He pointed out that the 1949 purchases by United Kingdom were contracted for at a time when the situation in this country was very tight, compelling the purchasers to place their contracts in Canada, where supplies were easier.

Dividends Declared

Puget Sound Pulp & Timber Co. has declared a dividend of 25 cents a share on its common stock, payable September 30 to holders of record Sept. 15.

Hinde & Dauch Paper Co. has declared a regular quarterly dividend of 25 cents per share, payable October 1, to holders of record August 31.

Fort Wayne Corrugated Paper Co. has declared a dividend of 25 cents per share on its common stock outstanding at the close of business, August 30, payable September 15.

West Virginia Pulp & Paper Co. has declared a special dividend of 25 cents and a regular quarterly of 25 cents both payable October 1 to holders of record September 15.

Barber-Ellis of Canada Ltd. has declared a dividend of 25 cents per share, plus an extra of 25 cents, payable September 15 to holders of record August 31.

'49 First-Half Dividends Under '48's

WASHINGTON — Publicly reported dividends in the paper and printing industries had a combined total of $7,500,000 in July, 1949, compared with $9,100,000 a year earlier, the Commerce Department reports. Payments were not indicated for the separate industries.

Union Bag Issue Oversubscribed

NEW YORK—Shields & Co. on August 24 offered as a secondary distribution a block of 86,000 shares of Union Bag & Paper Co. common stock priced at $24, with a dealer concession of 75 cents a share. The issue was speedily over-subscribed.

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FORESTRY

Long Leaf Pine Division Meeting

HATTIESBURG, Miss. — Forty-seven members and guests of the Longleaf Pine Division of the Society of American Foresters convened here on August 12, for the bi-monthly supper and program meeting. Arthur Nelson, chief forester for the Flintkote Co., of Meridian, and Ben Meadows, forester for the Masonite Corp. of Laurel, led discussions on hardwood eradication and utilization problems.

"Encroachment of hardwoods on pine land is becoming increasingly serious," Mr. Nelson declared. "In the last 14 years some two million acres of pine lands in Mississippi have been taken over by hardwoods, usually of inferior grade; yet the majority of paper board and pulp mills of the South are geared to use mainly pine species. To permit conversion of pine stands to inferior hardwoods is practically tantamount to taking just that much forest land out of production."

"Our mill in Laurel is equipped to utilize both pine and hardwoods, excepting oaks and hickory," Mr. Meadows stated. "But most hardwoods grow poorly on pine soils, hence landowners suffer considerable economic loss if they permit hardwoods to replace pine on upland sites."

John W. Squires of Jackson, chairman of the Gulf States Section, SAF, also spoke, outlining the highlights of coming events which include the annual meeting of the Gulf States Section (comprising Texas, Arkansas, Louisiana, and Mississippi) to be held in Mississippi in the spring of 1940 and the national meeting of the Society of American Foresters to be held in the fall of 1951.

Next meeting of the Longleaf Pine group will be held on the Gulf Coast on October 28, jointly with all other professional forestry groups in Mississippi.

Program for the fall meeting will consist of an afternoon field trip to the Harrison Experimental Forest followed by a banquet and program on the Coast. T. E. Maki, chairman of the Longleaf Pine Group, appointed David Bruce, R. M. Lindgren, and R. J. Kowal to handle the program for the field trip, and Scott Moore, C. M. Evenson, John Coyne, and John Guthrie to the banquet committee.

Coast members making the trip to Hattiesburg included: R. M. Allen, David Bruce, John Coyne, R. J. Kowal, Mr. Maki, Douglas Post, H. C. Secrest, and Lloyd F. Smith.

Alberta Air Survey

TORONTO—The Alberta Department of Lands and Forests reports that work is to commence immediately on aerial survey and mapping of 180,000 square miles of unmapped provincial territory. In addition, a forest inventory, covering an area of 95,000 square miles, will be compiled by photographic methods.

The contract for this work, second largest commercial air survey contract ever let in Canada and valued at close to a million dollars, has been awarded to the Photographic Survey Corp. Ltd., Toronto.

The company has one more season's work on a mapping and forest inventory survey of 125,000 square miles for the Ontario Department of Lands and Forests, begun in 1946.

Alberta forest operators will have access to photographs, one-inch maps, and inventory information in planning their operations when the survey is completed.

Five planes will be engaged on the job next summer, and photography is expected to be completed by the end of 1951. Interpretation, mapping and forest inventory work will be carried out in the company's Toronto laboratories.

$30,000,000 for Timber Access Roads

WASHINGTON—Following agreement by conferees of House and Senate, the Senate has approved a joint resolution providing for timber access roads to and in United States forest areas. The Secretaries of Agriculture and Interior are authorized to survey and construct, or restore existing roads and trails in forest areas under their respective jurisdiction, with an appropriation of $30,000,000 annually beginning June 30, 1951.

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Reforestation Demonstration

OTTAWA—The Department of Lands and Forests of Ontario on September 8 will give a demonstration of reforestation and woodlot improvement at Canada's first Soil Conservation and Farm Improvement Field day, during which a complete five-year program of practices will be demonstrated on the farm of Heber Down, on Highway No. 7, just west of Brooklin, Ont. Approximately 10,000 persons are expected to be present, including both Canadian and American visitors. Among the speakers will be Premier Leslie Frost of Ontario and Agriculture Minister T. L. Kennedy.

Lester W. Fowler Re-elected

LAKE LUZERNE—Hadley, N. Y.—Lester W. Fowler, county supervisor in the town of Hadley, on August 23 was re-elected a member of the State Forest Practice Board for his second term of three years. Mr. Fowler is one of the original members elected under a law passed by the State Legislature and signed in 1946. He receives no salary. Purpose of the law is to encourage the planting and care of trees and to promote forestry generally. Mr. Fowler is chairman of the farm program and a member of the Forest Practice Standards committee of the state board.

Brannan Opposes Consolidation

WASHINGTON—Opposition to consolidating the U. S. Forest Service with agencies now in other departments, as proposed under plans for the Columbia Valley Administration, has been expressed by Secretary of Agriculture Brannan. The consolidation would include various other activities now carried on independently within the area of the proposed valley development.

Westvaco Increases S. C. Acreage

COLUMBIA, S. C.—John J. Hood of Fairfield county has sold 1,122.6 acres of land in Richland and Fairfield counties to the West Virginia Pulp & Paper Co. of Delaware, for $17,000. The land is divided into four tracts, one in Richland county and the other three in Fairgeld county.

Forests Historian Commissioned

TORONTO — Merill Denison, Canadian writer, has been commissioned by the Ontario Department of Lands and Forests to record the history of the province's forest resources, Hon. Harold Scott disclosed on August 24.

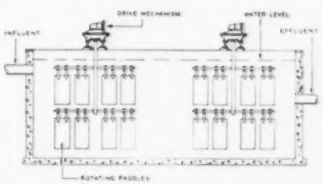
OBITUARIES . . . .

Eugene LeMay, 61, operator of the Tiger Paper Stock Co., Yakima, Wash., died in St. Elizabeth's hospital in that city on August 14. Surviving him are his widow, Mrs. Ernestine LeMay; a son, Eugene (Archie); and a daughter, Mrs. Lois Hagerty.

Williamson Pell, 68, a director of the Great Northern Paper Co. and board chairman and a former president of the U. S. Trust Co., New York City, died in Presbyterian hospital on August 22. Mr. Pell was a director in some seven or eight corporations and a trustee of several others. Surviving are his widow, Mrs. Vida Kneeland Pell; a son, Williamson Pell, Jr.; a daughter, Mrs. Angela P. Donald; and a sister, Miss Antoinette Varci Pell.

Hejnar Johnson, 61, in charge of manufacturing for the Eastern district of International Printing Ink, died of spinal meningitis at Israel-Zion Hospital in Brooklyn, N.Y., on August 11. Mr. Johnson, a native of Sweden, began his inkmaking career in 1904 in the mill rooms and dry color department of the Philip Ruxton, Inc., Brooklyn factory. He was credited with being the first to make finished inks with a system of base inks instead of making them directly from dry colors. In 1928, Philip Ruxton, Inc., became a part of International Printing Ink and Mr. Johnson was made superintendent of the Brooklyn plant in the new organization. He was stepped up to plant manager in 1937 and later was given responsibility for all manufacturing in the Eastern district of IPI.

T. L. B. Lyster, 70, former chief engineer of the Hooker Electrochemical Co., Niagara Falls, N. Y., died of a heart ailment on August 18 after a short illness. At the time of his death, Mr. Lyster was a consulting engineer



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for the Hooker company. He came to the company in 1907 as a construction engineer when it was known as the Development & Funding Co. From 1922 to 1932 he devoted a large part of his time to the pulp industry, serving as a consultant to Hooker in the meantime. From 1937 to 1948 he was the firm's chief engineer.

Edouard A. Petrequin, 79, president of the Petrequin Paper Co., Cleveland, died in St. Luke's hospital in that city on August 23. Surviving him are his widow, three daughters, and a son, E. J. Petrequin, who is secretary of the Petrequin Paper Co.

Harold B. Henry, 32, an employe of the Northeastern Container Corp., Bradford, Pa., died at his home in that city on August 20, after being stricken suddenly while at work in the plant a few days previously. Surviving him are his parents and five brothers.

Henry Ewing Harris, 54, president of the Southeastern Paper Co., Louisville, Ky., died at a local infirmary on August 21. Surviving are his widow, Mrs. Mary Rhodes Harris, and a daughter, Miss Mary Rhones Harris.

Ernest J. Eisermann, 86, retired district manager of the Hinde & Dauch Paper Co., died at his home in Chicago on August 16. Surviving him are his widow, Mrs. Helen Eisermann, and a son, George.

AMERICAN PAPER AND PULP ASSOCIATION'S PRODUCTION RATIO REPORT*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1949		Corresponding Weeks—1948	
July 16	76.3	July 17	87.1
July 23	83.2	July 24	103.1
July 30	84.7	July 31	96.5
Aug. 6	83.3	Aug. 7	97.0
Aug. 13 (Revised)	85.9	Aug. 14	96.1
Aug. 20	89.8	Aug. 21	97.7

COMPARATIVE MONTHLY SUMMARIES

1948						1949	
Jan.	100.1	May	100.5	Oct.	97.1	Jan.	94.6
Feb.	99.8	June	95.7	Nov.	97.1	Feb.	92.8
Mar.	100.8	July	85.3	Dec.	87.1	Mar.	89.1
Apr.	100.8	Aug.	96.8			Apr.	85.1
		Sept.	91.8	Year Avg.	96.2	May	82.7
						June	78.6
						July	‡72.2

‡ Preliminary.

COMPARATIVE YEARLY SUMMARIES

	1942	1943	1944	1945	1946	1947	1948	1949
Year to Date	93.5	88.2	87.9	87.8	99.9	103.7	97.5	85.5
Year Average	90.4	87.8	88.1	89.4	101.1	104.3	96.2	

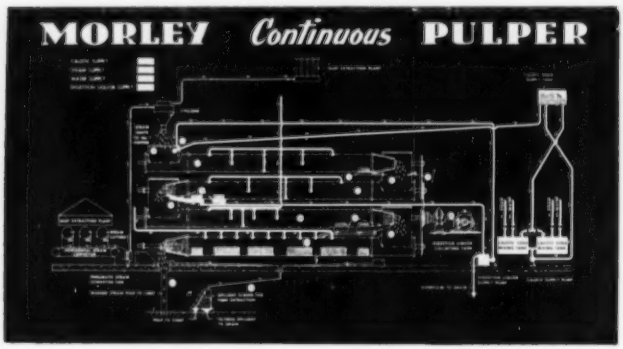
PAPERBOARD OPERATING RATIOS†

Current Weeks—1949		Corresponding Weeks—1948	
July 16	64	July 17	84
July 23	76	July 24	91
July 30	80	July 31	92
Aug. 6	82	Aug. 7	90
Aug. 13	84	Aug. 14	93
Aug. 20	87	Aug. 21	93

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1948	99	100	102	102	100	94	81	92	91	96	94	84	95
1949	88	85	79	79	78	75	64						

* All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.



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The MORLEY CONTINUOUS PROCESS AND APPARATUS, now in mill operation for five years, is a proven efficient method, operating at atmospheric pressure only. It economically and continuously processes cereal straws and other cellulosic materials to pulp for the ultimate manufacture of quality paper and/or Board, for example: .009 Corrugating, Tube Stock, Wall Board, and many grades requiring rigid characteristics.

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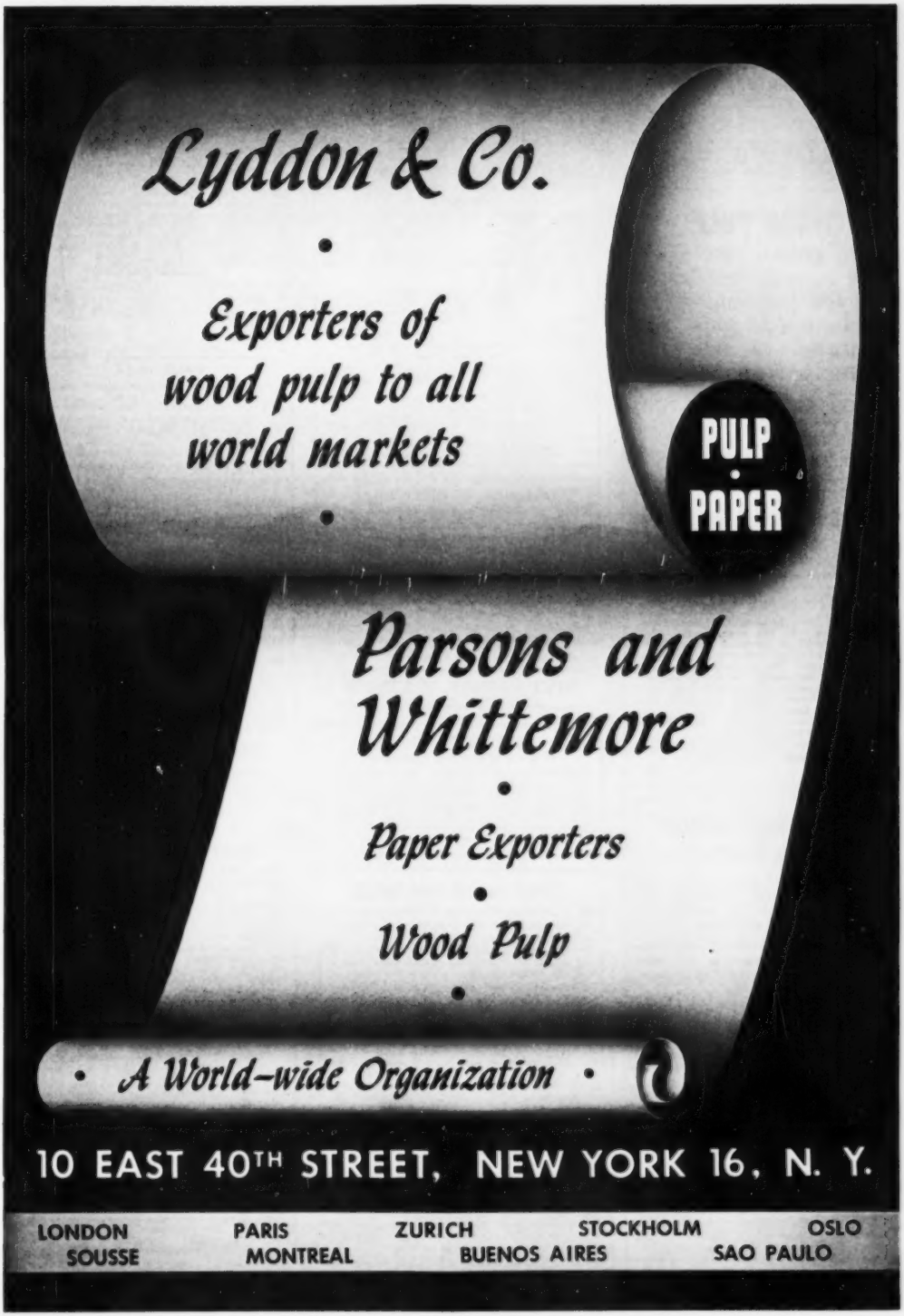
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GOOD SALARY PAID FOR FIRST RATE MAN.

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Can You Qualify?

Sales positions with National Wide staff of large Specialty Paper Manufacturer. We will train the right men for positions with good opportunities for advancement.

We need several men with college educations who are neat appearing, have sales personality, are single, and willing to travel. Ages preferably from 20 to 30.

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PAPER CHEMIST

Man familiar with soft papers used in rubber saturating, wanted by paper manufacturer. Applicant must be experienced and willing to work. Outline educational background, give a list of past employers and nature of work for each, together with references and salary expected. All replies will be held in strict confidence. Address Box 49-404 care of Paper Trade Journal. S-1

WANTED—Young man experienced in manufacture and sales vulcanized fibre. Address Box 49-341 care Paper Trade Journal. TF

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WANTED

First class Paper Mill Superintendent for two machine mill.

Must have experience on straight Fourdrinier and Cylinder machines.

Also experience using old paper stock, making Kraft Papers, Corrugated Material, Boxboard specialties, etc.

Address all replies to.

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P.O. North Hoosick, New York TF

MEN WANTED
Positions Open

Working superintendent for converting plant, toilet and facial tissues; manager cylinder board mill; superintendent multiwall and textile bag plant; plant engineers, master mechanics, electrical and assistant paper engineer.

We invite correspondence (confidential) with mills seeking executives and with executives seeking new positions.

CHARLES P. RAYMOND SERVICE, Inc.
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SALESMAN TO PAPER MILLS

Large oil and chemical firm has sales opening for young man, selling oils and waxes to mills, converters and paper specialty firms for impregnation, lamination, etc. Technical training and/or sales experience preferred but not essential. Will headquarter in Chicago. Straight salary. Excellent opportunity for permanent position. State in complete detail, education, previous experience, etc. Box 49-425 care Paper Trade Journal. S-8

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30 years of practical experience

manufacturing highest grades light and heavy weight papers on modern high speed cylinder and Fourdrinier machines high grade folding box board; kraft; book and bond specialties from sulphite, sulphate, groundwood, de-inked papers. Can get quality and production. Best of reference. Box 49-388, care of Paper Trade Journal S-8

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25 years experience directing plant engineering and shop supervision as chief engineer in full charge of plant expansion, construction, maintenance, design, development and building of special converting machinery. I am a master-mechanic, power plant supervisor and industrial engineer experienced in efficiency control, time study, wage incentives, standardizing costs, inventor and machine designer. Expert in leadership and control of men. Address Box 49-402 Paper Trade Journal. S-1

SUPERINTENDENT or Asst. Supt.—Age 39, desires to make change. 15 years experience on high speed Fourdrinier with Yankee Dryer machines, making toilet tissue, facial tissue, towels and napkins. Address Box 49-422 care Paper Trade Journal. S-15

MECHANICAL ENGINEER—Over 25 years in the pulp, paper and board industry in engineering and operation management. Extensive background in chemical and semi-chemical pulp, paper and board manufacturing. Power, Maintenance and construction. Address Box 49-392 care Paper Trade Journal. S-1

BOARD MACHINE TENDER wants position. Acquainted with light weight papers and tissue. Best of references. Address Box 49-423 care Paper Trade Journal. S-1

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POSITION WANTED—Master Mechanic or Mechanical Superintendent in Paper or Pulp Mill. 36 years experience. Can furnish A-1 references. Can handle construction work. Sober, not afraid of hard work. Can organize personnel and get results. Address Box 49-424 care Paper Trade Journal. S-15

YOUR BOSS—Expert on color. Eleven years with leading fine mill. Knows paper thoroughly. Address Box 49-426 care Paper Trade Journal. S-8

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CHESTNUT WET LAP FOR SALE

8 Air Dry Tons per day of pure chestnut wet lap 60% air-dry. Available for immediate shipment. Write for details and sample.

CHAS. A. SCHIEREN COMPANY
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GOOD VALUES—NEW & USED

34" Beck Sheeter, one year old.
58" and 78" Hamblet Sheeters.
34" Camachine No. 6 Slitter.
32" Hobbs and 34" Inman shear cut Slitters—very cheap.
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New 44" National Auto. Power Cutters and 36" National Hydraulics.
Baling Presses—both hand and power.
Brackett 3-knife Trimmer.
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Paper Mill with 3 Fourdrinier Machines, complete with auxiliary equipment. Designed for 60 tons of Specialties, News, Book, Toweling, Kraft, etc. Can be put in operation immediately. Covers 80,000 Sq. Ft., Buildings fully sprinklered, Railroad Sidings, excellent water, 1800 H. P. stoker-fired water tube Boilers installed 1936. Excellent labor conditions. All located within radius 100 miles New York City, Baltimore, Washington. Immediate possession. Attractive proposition!
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Two Heavy Duty 72" #10 Model 5 Camachine Slitter Rewinders.

Complete with new style crush cut slitting units and water-cooled mill roll brakes. All in perfect condition ready for use.

Extra slitting units available.

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NEW, USED, REBUILT
PAPER AND PULP MACHINERY

1—Pusey & Jones 120" Ball Bearing Fourdrinier Paper Machine. 60" diameter dryers—suction press and suction couch—Spiral Bevel Gear Drives.
1—Pusey & Jones 82" Fourdrinier Machine Complete.
1—7 cylinder 120" Board Machine, 82 Dryers, 42" diameter. Complete with all auxiliaries.
1—6 cylinder 132" Board Machine, 67 Dryers, 42" diameter. Complete with all auxiliaries.

BEATERS

2—Valley Iron 750 lb. Iron Tub—Bronze filled.

BLOWERS

8—Blowers and Mill Exhausters

CALENDER ROLLS

54 Chilled Iron Rolls—Assorted sizes.

CALENDER STACKS

1—104" face 5 roll stack, with drive
1—76" face 7 roll with drive.
1—76" face 5 roll with drive.
1—112" face 7 roll.
1—82" face 5 roll Sandy Hill.

CONVEYOR

1—18½ ft long x 30" wide—with motor.

COUCH ROLLS—BRASS

1—104" face x 18" dia.
1—118" face x 18" dia.
1—150" face x 18" dia.
1—82" face x 19½" diameter.
2—94" face x 21¾" diameter.

COUCH ROLLS—RUBBER

1—110" face x 20" dia.—New.
1—138" face x 19" dia.

CYLINDER MOLDS

6—IMPCO 40" diameter x 64" face.
3—38" diameter x 138" face Cylinder molds with vats, couches—ball bearing.
2—74" face x 38" diameter.
1—134" face x 36" diameter, with stainless steel shafts.
1—78" face x 30" diameter.

CYLINDERS AND VATS

1—136" face x 36" dia.—with vats, couch, complete.

DRIVES

1—8C. Reeves Drive. 40-50 h.p.—Ratio 4 to 1.
1—Cleveland 50 h.p. Ratio 10 to 1. Right angle.
1—De Laval 65 h.p. Ratio 2.24 to 1—616 r.p.m.
1—Falk 60 h.p. Ratio 13 to 1. R.p.m. 1470-113. Herringbone gears.

DRYERS

4—74" face x 28" diameter with gears.
5—143" face x 48" diameter.
4—124" face x 48" diameter.
4—80" face x 36" diameter.
1—72" face x 48" diameter—with gear.
1—84" face x 36" diameter.
18—78" face x 36" diameter, complete with 2 deck frames, gears, bearings and steam joints. Drives, line shaft and felt rolls are available.
1—78" face x 18" diameter with gears and bearings.
1—120" face x 16" diameter—Baby Dryer.
11—64½" face—36" diameter with 2 deck frames, gears and bearings.
5—63¼" face—36" diameter—bearings and gears.
6—96" face x 48" diameter.
95—126" face x 42" diameter.

EXTRACTOR ROLLS—VACUUM

1—Downingtown—64" face x 17" diameter with bearings & stand.

FLAT SCREENS

3—10 plate Sandy Hill.
1—Sandy Hill 8 plate—with scraper.
1—New Sandy Hill 12 plate, with scrapers and V-belt drive.
1—Montague 6 plate—ball bearing.

FOURDRINIER SECTIONS

1—P & J 156" x 80 ft. ball bearing. Complete from inlet to 22" diameter suction couch. Brass and Rubber covered table rolls. 6 Brass Suction Boxes operated at 1000 per minute.
1—M & W 82" x 49' complete with 3 suction boxes, shake, 3 section presses and size press.

HAMMERMILLS

1—American Hammermill—37" anti friction bearing equipped.

HEAD BOXES

1—110" Bronze Lead Lined. Beloit.

INLETS

1—Voith Inlet for 151" wire with 28" slice. Complete, including drive.
1—96" All bronze—Adjustable.
1—141" Beloit complete with distributor roll.

JORDANS

2—Jones Standard, with motor bases and couplings.
1—Jones Standard—ball bearing direct connected to 150 h.p. G.E. 440 volt motor.
1—#3 Miami, for motor drive.
1—Jones Majestic, roller bearing—stainless steel filling—for motor drive.
4—Jones Majestics with base and couplings—bronze filled, 2 sets of new bronze fillings.
3—#3 Appleton with base and coupling—bronze filled.
1—Dillon Herne #2—direct connected 75 h.p. Stainless steel ¼" filling.
1—#4 Smith & Winchester—Ball bearing.

MOTORS

1—Fairbanks Morse — 30 h.p. — 480 r.p.m. — 220/440/3ph.
1—Reliance 25 h.p. ball bearing, 550 v., 3 phase, 60 cycle—1750 r.p.m.
1—General Electric 150 h.p.—440 v.—3 phase—60 cycle—600 r.p.m.
1—General Electric 200 h.p. induction. 440 v. 3 ph. 60 cyc. 300 r.p.m. with GE starter.
1—General Electric 350 h.p. synchronous type TS 440 v. 3 ph. 60 cyc. 400 r.p.m. with exciter GE starting panel.

PRESS ROLLS

1—110" face x 15" diameter—rubber.
1—101" face x 18½" diameter—rubber.
1—123½" face x 17½" diameter—rubber.
1—112" face x 15" diameter—rubber.
1—127" face x 17½" diameter—brass.
1—117" face x 24" dia.—Brass.
1—94" face x 29" dia.—Rubber.
1—118" face x 22" dia.—Rubber.
2—118" face x 21" dia.—Rubber.
1—147" face x 11⅝" dia.—Rubber.
1—74" face x 18" diameter—Rubber.
1—108" face x 17" diameter—Rubber.
1—102" face x 16" diameter—Rubber.
1—119" face x 17" diameter—Brass.
1—78" face x 19" diameter—Brass.
1—53" face x 14" diameter—Brass.
1—53" face x 12" diameter—Iron.
1—55" face x 10" diameter—Iron.
1—71" face x 16" diameter—Iron.
1—73" face x 14" diameter—Iron.
1—102" face x 18" diameter—Brass.

PULLEYS

30—Split cast iron tapered Pulleys.

PULP EQUIPMENT

1—Jigger—1 deck—vibrating screen.
1—Mitts & Merrill 217 Pulpwood chipper.
1—5' Carthage Disc Barker
1—88" Carthage Ball Bearing Chipper—4 knife.

PULPERS

2—#2 Lanneye Pulpers—with drives.

PUMPS

44—Centrifugal Pumps. Direct connected. Belt Driven. Extended base for motor. Assorted capacities and heads. Most used less than one year.

PUMPS—OPEN IMPELLER

1—Morris open impeller—8" suction—8" discharge—belt driven.
1—Morris Vertical Open Impeller 8 x 8—300 g.p.m. 5 percent stock—40' head—connected to G.E. 15 h. p. 220-440 volt 3 phase—60 cycle—1165 r.p.m.
1—New Gould—ball bearing—6" suction—4" discharge—700 g.p.m.—80' head. Requires 28 h.p. at 1750 r.p.m.
1—New Gould—ball bearing—8" suction—6" discharge—1500 g.p.m.—45' head. Requires 28 h.p. at 1150 r.p.m.
1—New Goulds—ball bearing—8" suction—6" discharge—1200 g.p.m.—60' head. Requires 28 h.p. at 1150 r.p.m.
1—New Gould—ball bearing—8" suction—6" discharge—1000 g.p.m. 40' head. Requires 20 h.p. at 1150 r.p.m.
1—New Gould 6" suction 4" discharge 500 g.p.m. 40' head. Requires 15 h.p. at 1750 r.p.m.
1—Warren—10 x 8. 1000 g.p.m.—30' head—Belt drives.
1—De Laval 6 x 6. 250 g.p.m. 30' head—for motor drive.
1—De Laval—4 x 6. 500 g.p.m. 30' head—for motor drive.

REELS

3—Beloit 110" two bowl Reel.
1—P & J 76" 2 bowl reel.
1—Beloit 132" two bowl upright reel.
1—Beloit 116" two bowl upright reel.

ROLLS

2—18" diameter x 120" face with ball bearings and stands. Bored for steam.
250—Brass, Steel Rolls. Assorted sizes.

ROTARY SCREENS

3—Jones Leithwalk—cylinder 84" face x 28" diameter
1—#2 Leith-walk-ball bearing.
1—#3A Bird with motor. Used less than 1 year.

SCREW PRESSES

3—Valley Voith Screw Presses Size 2A, with new spare sets of plates.

SHEETERS

1—Hamblet 51" Single Knife with 6 roll back stands and motor.
1—Hamblet 81" Single Knife with 6 roll back stand and motor.
1—Beloit Duplex 104", complete with drives.
1—Hamblet Duplex—136".

SHREDDERS

3—Sprout Waldron Cutters — type F-11 — 28" knives. Used 30 days.

SLITTERS AND WINDERS

3—Pusey & Jones 100" high speed slitters and rewinders.
1—42" Cameron Model 6, with 15 slitters.
1—New 50" Cameron Model 6.
1—Beloit 2 drum 125" with 8 slitters.

STUFF PUMPS

1—Shartle 8½x12 Triplex—Silent Chain Drive.

SUCTION COUCH ROLLS

1—Millspaugh 22" diameter x 138⅝" suction face.
1—Millspaugh 22" diameter x 138" drilled face.
1—Beloit 102" drilled face x 22" diameter. Anti friction bearings.
1—Millspaugh—14½" diameter x 93" drilled face.

SUCTION PRESS ROLLS

1—Downingtown 25" diameter x 100" drilled face.
1—Beloit 22" diameter x 100" drilled face for direct drive. Anti friction bearings.

SUPER CALENDERS

3—7 roll 62" face.
1—7 roll 65" face.
1—7 roll 58" face.

TRIMMERS

1—84" Seybold Precision with motor and five spare knives.
1—40" Universal Trimmer.

VACUUM PUMPS

1—H2 Nash for motor drive.

YANKEE DRYERS

1—Beloit 10' diameter x 132" face with stands, gears, bearings and drive.
1—Beloit 12' diameter x 132" face with stands, gears, bearings and drive.

AMERICA'S LARGEST BUYERS OF PAPER MAKING MACHINERY

FOR SALE
A Paper Treating Machine

This consists of the following:

Unwind stand: one set of press rolls with pan, bottom rubber covered, top gun metal. 16 x 84".

First section of five dryers 36 x 82" with bottom felt and Lodding doctors and spring roll.

Size press, rolls rubber covered and gun metal 16 x 84".

Second dryer section consisting of 18 dryers 36 x 82", with bottom felt, Lodding doctors and spring roll and frames for top felt.

80" Farrel calender with levers and weights, flexible doctors. Bottom roll 18" diameter, with 10" journals; one 12" roll; three 8" rolls and one 16" roll.

Open side Rice Barton reel with drums 18 x 78", 34" centers.

Two drum Bagley & Sewall winder with slitter part, drums 12½" x 94". Fourteen sets of Koegel slitters, anti friction.

Three spare press rolls and one spare dryer with gears.

Machine is driven by Reliance drive with motor generator set which was put in new in 1942 at a cost of about $14,000.00.

Equipment has been operating up to speed of 450 FPM, all set up, in very good condition.

Price $15,000.00. If interested telephone or wire us.

FRANK H. DAVIS COMPANY, 175 Richdale Avenue, Cambridge, Massachusetts

Telephone Trowbridge 6-0366

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FOR SALE

2—Horizontal Rotary Digesters, 8' 6" I.D. x 9' 6½", volume 450 cu. ft., complete with insulation, glands, bearings, drive gears, and 5 HP ball bearing gearhead splashproof motors. Shell, heads, manways, and covers of 1⅜" A.S.T.M. A-70 Fire Box Quality Steel lined with 7/64" type #317 stainless steel alloy. Maximum working pressure 250 lbs. per sq. in. gauge. Working temperature 380 to 390 degrees —F., Maximum test pressure 500 lbs. per sq. in. gauge.

1—General Electric Motor, 50 HP, 2200 volts, 870 RPM, Serial 1378682 complete with starter.

7—Model 2 Bird Screens, complete with plates, showers, and drive less motor.

Write Box 49-407, care Paper Trade Journal. S-8

FOR SALE

Centrifugal Separator and Screen. Thickener Washer. Mould 4' in dia. by 112" long. Both machines have barely been used. They have become unnecessary on account of changes in mill. Will sacrifice. Complete details and prices cheerfully submitted by General Paper Co., Coatesville, Pa., R. D. 3. S-8

FOR SALE—One Hamblet Sheeter with Layboy 78". Complete with 10 roll backstand, shafts and chucks. Excellent working condition. Now in operation. $2,000. PAPER CONVERTING CO., 240 East 45th St., N. Y. 17, N. Y. S-1

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Cylinder Paper Machine Trimming 42"
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300	G.E.	S.R.	450	I M
300	West.	S.R.	600	CW
150	G.E.	S.C.	600	IK
150	G.E.	Syn.	600	ATI
150	G.E.	S.C.	695	KT562Y
150	West.	S.C.	500	CS
125	West.	Syn.	277	
120	Cr. Wh.	S.R.	290	
100	G.E.	S.R.	450	I M
100	Al.Ch.	S.R.	580	
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60	West.	S.C.	1160	CS305
50	A.C.	S.C.	1750	
40	G.E.	S.C.	860	KT
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30	Vert. G.E.	S.C.	1150	KT328
25	C.Wh.	S.C.	800	SC504
25	500 v. West.	S.C.	1750	CS365
25	Cr.Wh.	S.C.	865	
25	Cr.Wh.	S.R.	580	1210
20	West.	S.C.	1750	CS343F
15	West	S.C.	1750	CS326
15	L.A.	S.C.	3600	Fr. 324

HP	Make	Wdg	Spd.	Type
10	West.	S.C.	570	CS568C
10	West.	S.C.	870	C=484C
10(6)	West.	S.C.	1200	CS370C
10	West.	S.C.	1730	CS371G
7½	Comm.	S.C.	865	P128
7½	West.	S.C.	3440	CS254Y
5	West.	S.C.	865	CS516
5	West.	S.C.	150	254
5(12)	West.	S.C.	1200	CS
5/11½	L.A.	S.C.	500 1600	2548
5	Master	S.C.	1125/37	PA
5	Burke	S.C.	420	EM2
3	West.	S.C.	1100	CS
3	West.	S.C.	1750	
2	West.	S.C.	800/1200	CS324
2	550v. West.	S.C.	1750	Cs224

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Blank proposals containing the instructions, schedules, and specifications may be obtained by addressing John J. Deviny, Public Printer, Washington 25, D. C.

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By direction of the Joint Committee on Printing.

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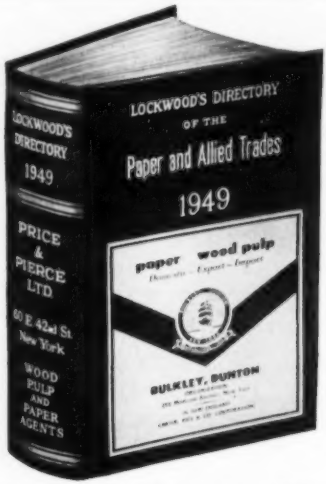

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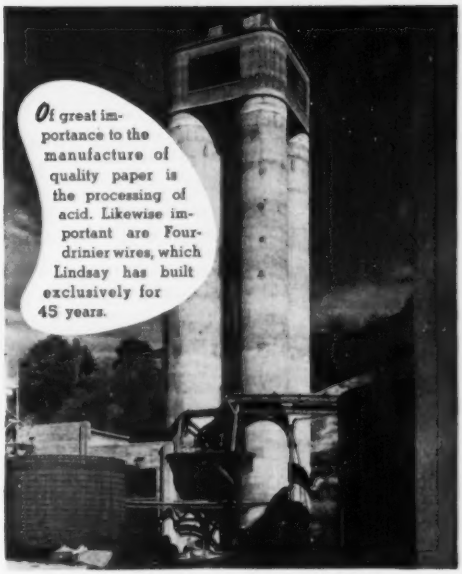
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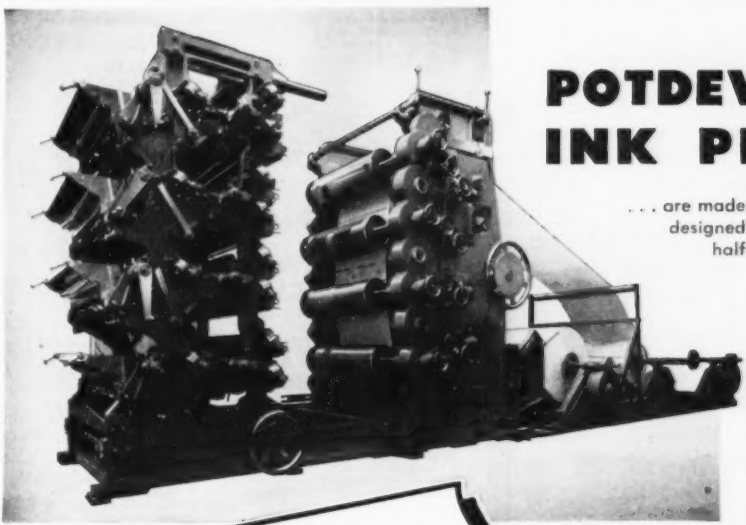

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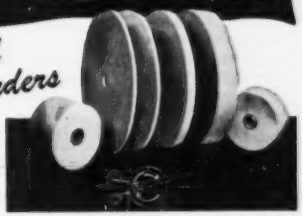

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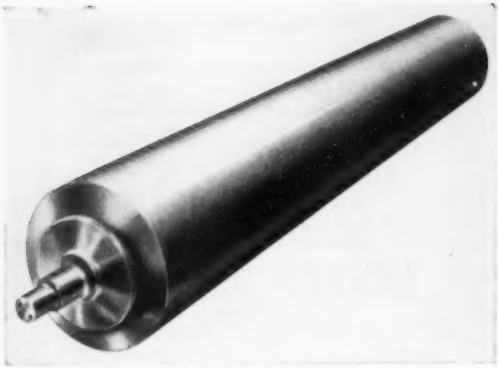

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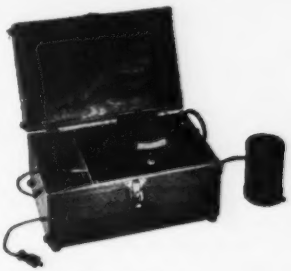

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Frank W. Egan & Co.
Moore & White Co.
Potdevin Machine Co.
John Waldron Corp.
H. G. Weber & Co., Inc.

ROPE CARRIERS

The Moore & White Co.

ROTARY BOILERS

The Biggs Boiler Works Co.

ROTARY STEAM JOINTS

Johnson Corp.
The Moore & White Co.
Perfecting Service Corp.

RUBBER PRODUCTS

The Goodyear Tire & Rubber Company

SATURANTS

American Anode Div., The B. F. Goodrich Chem. Co.

SATURATING MACHINES

Black-Clawson Company
Dilts Machine Works
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
Moore & White Co.
Noble & Wood Machine Co.
Potdevin Machine Co.
Shartle Brothers Machine Co.
Waldron Corp., John
Weber, Herman G.

SAVEALLS

Bird Machine Company
Hardinge Company

SCALES

Fairbanks, Morse & Co.
Merrick Scale Mfg. Co.
Testing Machines, Inc.
Walker-Goulard-Plehn Co.

SCREEN PLATES

Bird Machine Company
Fitchburg Screen Plate Co.
Magnus Metal Corp.
Morey Paper Mill Supply Co.
Testing Machines, Inc.

SCREENS

Allis-Chalmers Mfg. Co.
American Paper Mchy. & Engrg. Works, Inc.
Appleton Wire Works
Appleton Machine Company
Bird Machine Company
Carthage Machine Co.
Dilts Machine Works, Inc.
Downingtown Mfg. Co.
Gibbs-Brower Company, Inc.
E. D. Jones & Sons Co.
Link Belt Company
Moore & White Co.
D. J. Murray Mfg. Co.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works Co.

SHEET MACHINES

Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Suburban Machine Co.
Valley Iron Works Co.

SHOWER PIPES

Bird Machine Company
DeZurik Shower Company
Downingtown Mfg. Co.
Moore & White Co.
Sandusky Fdy. & Mch. Co.
Shartle Bros. Mach. Co.
Smith & Winchester Mfg. Co.

SHREDDERS

Bauer Brothers Co.
Carthage Machine Co.
Gibbs-Brower Company, Inc.

SIZING

American Cyanamid Company, Industrial Chemicals Division
Black-Clawson Company
The Dow Chemical Company
du Pont, E. I., de Nemours & Co.
Glidden Company
Hercules Powder Co.
The Hubinger Co.
Monsanto Chemical Company
National Aluminate Corp.
Philadelphia Quartz Co.
Stein-Hall Co., Inc.

SIZING TESTER

W. & L. E. Gurley
Testing Machines, Inc.

SLIME CONTROL

W. A. Cleary Corp.
The Dow Chemical Company
E. I. du Pont de Nemours & Co.
General Dyestuff Corp.
Monsanto Chemical Co.
National Aluminate Corp.
Rohm & Haas Co.

SLITTERS

Black-Clawson Company
Cameron Machine Co.
Carthage Machine Co.
Dietz Machine Works
Dilts Machine Works
Downingtown Mfg. Co.
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
Thomas W. Hall Co., Inc.
Hamblet Machine Co.
Hudson Sharp Machine Co.
Langston Co., Samuel M.
Machinery & Prod. Engrg. Corp
Moore & White Co.
D. J. Murray Mfg. Co.
Potdevin Machine Co.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Works
Smith & Winchester Mfg. Co.
Valley Iron Works Co.
Waldron Corp., John

SMOKE STACKS

William Allen Son's Company
The Biggs Boiler Works Co.

SPECIAL MACHINERY

Dilts Machine Works.

SPLICING TISSUE

Williams-Gray Co.

SOFTNESS-STIFFNESS TESTER

W. & L. E. Gurley
Testing Machines, Inc.

SOLUBLE OILS

Adell Chemical Company
American Cyanamid Company, Industrial Chemicals Division
General Dyestuff Corp.
Nopco Chemical Co.

SOLVENTS

Adell Chemical Company

STAINLESS STEEL

American Cast Iron Pipe Co.
Armco Steel Corp.
Michigan Steel Casting Co.
The Midvale Company
U. S. Steel Corp.

STARCH

American Cyanamid Company, Industrial Chemicals Division
A. M. Meincke & Son, Inc.
Chinton Industries, Inc.
The Hubinger Co.
National Starch Products Inc.
Stein-Hall Co., Inc.

STEAM JOINTS

The Moore & White Co.

STEAM SPECIALTIES

Babcock & Wilcox Co.
Cochrane Corp.
Combustion Engrg. Co., Inc.
Davis Engrg. Corp.
Jenkins Bros.
Midwest-Fulton Machine Co.
Perfecting Service Corp.
Shartle Bros. Mch. Co.
Stickle Steam Specialties Co.

STEEL

Allegheny Ludlum Steel Corp.
Armco Steel Corp.
Carnegie Illinois Steel Co.
Lukens Steel Company
Midvale Company
D. J. Murray Mfg. Co.
The Sandy Hill Iron & Brass Works
U. S. Steel Corp.

STEEL, CLAD

Babcock & Wilcox Co.
Lukens Steel Company

STEEL TANKS

William Allen Son's Company
The Biggs Boiler Works Co.

STRAPPINGS & STRAPPING MACHINES

The Stanley Works

STUFF CHESTS

Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Midwest-Fulton Machine Co.
Moore & White Co.
Shartle Brothers Machine Co.
Valley Iron Works Co.

SUCTION BOXES

Black-Clawson Company
Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

SUCTION UNIT

Paper & Industrial Appliances, Inc.

SULPHUR

American Cyanamid Company, Industrial Chemicals Division
Texas Gulf Sulphur Co.
Witco Chemical Company

SULPHUR BURNERS

Valley Iron Works Co.

SULPHUR DIOXIDE

American Cyanamid Co., Calco Chemical Div.
Ansul Chemical Company
Virginia Smelting Co.

SUPERCALENDERS

The Appleton Machine Co.
B. F. Perkins & Son, Inc.

SYNTHETIC LATICES

American Anode Div., The B. F. Goodrich Chem. Co.
The Goodyear Tire & Rubber Company
Nopco Chemical Co.

TACHOMETERS

The Brown Instrument Co.

TAKE-OFF UNITS

Dilts Machine Works (Kohler System).

TALC

American Cyanamid Company, Industrial Chemicals Division
W. H. Loomis Talc Corp.

TANKS

William Allen Son's Company
The Biggs Boiler Works Co
Cochrane Corp.
Kalamazoo Tank & Silo Co.
The Noble & Wood Machine Co.
B. F. Perkins & Son, Inc.
J. O. Ross Engrg. Corp.
Shartle Brothers Machine Co.
Waldron Corp., John

TEARING TESTERS

Testing Machines, Inc.

TENSILE TESTERS

B. F. Perkins & Son, Inc.
Testing Machines, Inc.

WHERE TO BUY

THICKENERS, DECKERS AND SAVEALLS
The Appleton Machine Co.
Bird Machine Company
Bulkley, Dunton Pulp Co., Inc
Carthage Machine Co.
Dilts Machine Works
Dorr Co.
Downingtown Mfg. Co.
Hardinge Co., Inc.
Moore & White Co.
D. J. Murray Mfg. Co.
Oliver United Filters, Inc
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Wks
Shartle Brothers Machine Co.
Valley Iron Works Co.

TIMBER ROOF TRUSS DESIGNS
Timber Engrg. Co.

TITANIUM
American Cyanamid Co., Calco Chemical Div.
E. I. du Pont de Nemours & Co.
Titanium Pigment Co.
R. T. Vanderbilt Co.
Witco Chemical Company

TOOLS
The Stanley Works
Walworth Company

TRACTOR SHOVELS
Frank G Hough Co.

TRACTORS & TRUCKS
Frank G. Hough Co.
Towmotor Corp.
Clark Equipt. Co., Clark Tractor Div.

TRANSMISSIONS
Link Belt Company

TRAPS
Armstrong Machine Works
Cochrane Corp.
Crane Co.
Johnson Corporation
Shartle Bros. Mch. Co.
Stickle Steam Specialties Co

TUBES
Babcock & Wilcox Co.
National Tube Co.

TUBING MACHINES
Dilts Machine Works.

TUBING, MECHANICAL
National Tube Co.

TUBS
Rodney Hunt Machine Co.
Shartle Brothers
Valley Iron Works Co.

TURBINES
Allis Chalmers Mfg. Co.
De Laval Steam Turbine Co.
General Electric Company
Hunt, Rodney, Mach. Co.

TURPENTINE RECOVERY
Foster Wheeler Corp.

UNWINDERS
Dilts Machine Works (Kohler System).

USED EQUIPMENT
Frank H. Davis Company
Gibbs-Brower Co.
Thomas W. Hall Co.
J. J. Ross Company
Ross Paper Machy. Corp.
Shartle Brothers Machine Co.
Suburban Machine Co.

VALVES
Askania Regulator Co.
The Bristol Company
The Brown Instrument Co
Cochrane Corp.
Crane Company
Dilts Machine Works
The Foxboro Company
E. D. Jones & Sons Co
Magnus Metal Corp.
D. J. Murray Mfg. Co
William Powell Co.
Record Fdy & Mch. Co
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Stickle Steam Specialties Co.
Taylor Instrument Companies
Trimbey Mach. Wks.
Valley Iron Works Co
Walworth Company

WASHERS
Bird Machine Company
Downingtown Mfg. Co
Gibbs Brower Company Inc
E. D. Jones & Sons Co
Moore & White Co.
Oliver United Filters
The Sandy Hill Iron & Brass Wks.
Rodney Hunt Machine Co.
Shartle Brothers Machine Co.
Valley Iron Works Co.

WASTE TREATING EQUIPMENT
Alhydro, Inc.
The Dorr Company
Hungerford & Terry, Inc.

WATER CONDITIONING
Alhydro, Inc.
Calgon, Inc.
Cochrane Corp.
General Dyestuff Corp.
Hungerford & Terry, Inc.
National Aluminate Corp.

WATER DISPERSIONS
Alhydro, Inc.
American Anode, Inc.
Rohm & Haas Co., Resinous Products Div.

WATER FINISH EQUIPMENT
Dilts Machine Works.

WATER SOFTENERS
Hungerford & Terry, Inc.

WAXES
Hercules Powder Co

WAXING MACHINERY
Black-Clawson Co.
Dilts Machine Works
Frank W. Egan & Co.
Gibbs Brower Company, Inc
The Mayer Machine Co.
Potdevin Machine Co.
Shartle Brothers Machine Co
Waldron Corp., John
Weber, Herman G.

WEB TENSION CONTROL
Dilts Machine Works (Kohler System).

WELDING EQUIPMENT
General Electric Company
Walworth Company

WET MACHINES
Black-Clawson Co.
Carthage Machine Co.
Downingtown Mfg. Co.
Gibbs-Brower Company, Inc
Moore & White Co.
Pusey & Jones Company
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co
Smith & Winchester Mfg. Co
Valley Iron Works Co.

WETTING AGENTS
American Cyanamid Company, Industrial Chemicals Division
General Dyestuff Corp.
Hercules Powder Co.
Monsanto Chemical Company
Nopco Chemical Co.
Rohm & Haas Co.
Wyandotte Chemicals Corp.

WHITE WATER HEATERS, AUTOMATIC SELF CLEANING TYPE
Davis Engineering Corp.

WHITE WATER TREATING EQUIPT.
Hungerford & Terry, Inc.

WINDERS AND REWINDERS
The Appleton Machine Co
Black-Clawson Company
Cameron Machine Co.
Dietz Machine Works
Dilts Machine Works (Kohler System)
Downingtown Mfg. Co.
Frank W. Egan & Co.
Gibbs-Brower Company, Inc
Thomas W. Hall Co.
Hudson-Sharp Mach. Co
Langston Co., Samuel M.
Moore & White Co.
Paper Converting Mch Co
Potdevin Machine Co.
Pusey & Jones Corp.
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Smith & Winchester Mfg Co
Suburban Machine Co.
Waldron Corp., John

WINDING ROLL CHANGERS
Dilts Machine Works (Kohler System).

WIRE BRUSHES
M. W. Jenkins Sons Inc.

WIRES
Appleton Wire Works
Bulkley, Dunton Pulp Co., Inc
International Wire Works
Lindsay Wire Weaving Co
Williams-Gray Co.

WIRE BRUSHES
Williams-Gray Co.

WOOD SPLITTERS
The Appleton Machine Co
Carthage Machine Co

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HUGHES PRINTING CO.
EAST STROUDSBURG, PA.

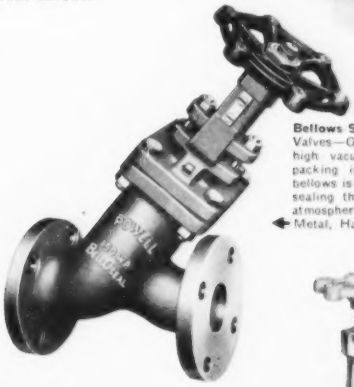
That's right! POWELL VALVES *really cut maintenance costs*

Every day, *the cost of production* is becoming a more important factor . . . and *maintenance* is a major item.

Take, for example, the cost of maintaining flow control equipment. By installing Valves that are properly designed and made of materials best suited to meet the exacting requirements of the service in which they are to be used, you not only save in the amount of wages paid out to maintenance crews, but you avoid costly shut-downs with consequent loss in production.

To build valves that give longer, trouble-free service has always been and is a prime consideration of Powell Research and Engineering. That's why it pays to standardize on *Powell Dependable Valves*. Ask your nearest Powell Valve Distributor—or write direct.

Fig. 1816—Large 125-pound All Iron Gate Valve. Made in sizes 2" to 30", incl. Has outside screw rising stem, bolted flanged yoke and tapered solid wedge. Tapered double wedge can be provided in sizes 2" to 12", incl.



Bellows Sealed "Y" Valve. Powell's Bellows Sealed Valves—Globe and "Y" patterns—are designed for high vacuum service and for installations where packing is unsatisfactory or fails frequently. The bellows is enclosed within the valve body, completely sealing the interior of the valve from the outside atmosphere. Available in 18-8S, 18-8S Mo., Monel Metal, Hastelloy, in sizes ¼" to 12", inclusive.

Fig. 1708—200-pound Bronze Globe Valve with screwed ends, union bonnet, renewable, specially heat treated stainless steel seat and regrindable, renewable, wear-resisting "Powellrum" nickel-bronze disc.

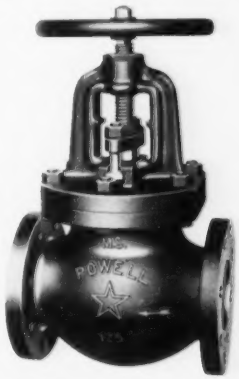


Fig. 457—125-pound All Iron Globe Valve with outside screw rising stem, bolted flanged yoke and regrindable renewable iron seat and disc.

Powell Valves are made in Bronze, Iron, Steel and a wide selection of Corrosion-Resistant metals and alloys. Valves of every type—Globe, Angle, Gate, Check, Non-return and Flush Bottom Tank Valves—are included in the Complete Powell Line.

The Wm. Powell Co., Cincinnati 22, Ohio

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TO HANDLE PULP and PAPER MILL LIQUORS

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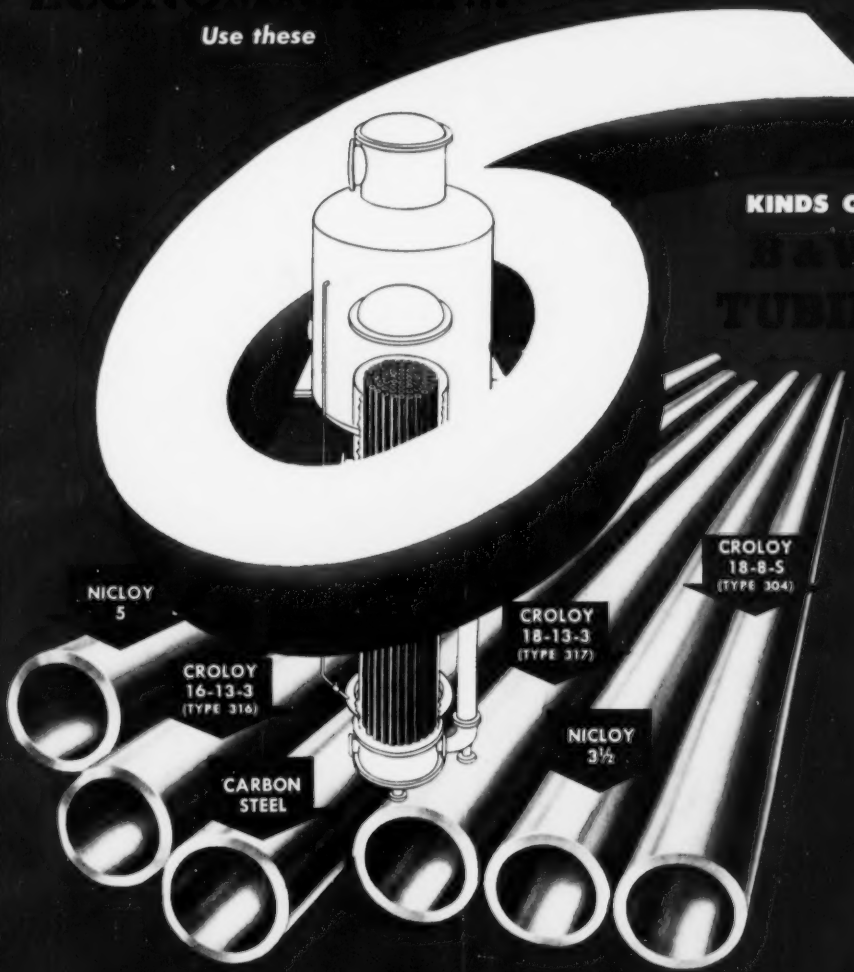

B&W SEAMLESS and WELDED TUBES